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CHARLES E. PADDOCK, M.D.



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M A T E R N I T A S

A Book Concerning the Care of
the Prospective Mother
and Her Child

BY

CHARLES E. PADDOCK, M. D.

*Professor of Obstetrics, Chicago Post-Graduate Medical School;
Assistant Clinical Professor of Obstetrics, Rush
Medical College; Attending Obstetri-
cian, St. Luke's Hospital*

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INTRODUCTION

The aim of the author in presenting this little work is to aid the prospective mother during her pregnancy, and to guide her in those trying days and weeks after the baby has come and the trained nurse has been dismissed. He has endeavored to explain some of the many perplexing questions which present themselves to her at these times, but which she considers hardly necessary to discuss with her physician.

It is hoped that the busy practitioner may find in the book a not unworthy adjunct to his own advice, especially since it is not intended in any sense of the word as a medical guide. The writer has tried, rather, to impress upon the mother who reads it the importance of co-operating with her physician and of early consultation with him on all those matters which properly demand his attention.

INTRODUCTION TO THIRD EDITION.

In presenting this, the third edition, of "Maternitas," the author wishes to acknowledge his appreciation of the acceptance accorded this little book. It has been subjected to careful revision throughout, and much new material has been added as well as new drawings prepared under his supervision. He hopes this edition may therefore prove a still more valuable aid to the physician when placed in the hands of the patient.

PART I
THE MOTHER

M A T E R N I T A S

CHAPTER I

PREPARATION FOR CHILD BEARING

Generations of indiscretions have impaired the female organism to such an extent that most women to-day bear the marks of racial deterioration. However, the abuses of bygone days are by no means the sole causes of adult physical defects. The indifference of many mothers to the physical and moral welfare of their daughters when the young girl is nearing that period which means so much to her future health and to the development of her reproductive powers is perhaps a more important factor than inherited weakness.

And even before puberty a girl's physical life should be thought of in the light of its importance to her future motherhood. Al-

though the organs of generation are the last to develop, it must be remembered that these organs will be under-developed and unfit for reproduction if physical soundness is overlooked during childhood.

During the period of puberty, the utmost care is required to prepare the girl for the heavy demands which Nature will make upon her if she becomes a mother. The functions of the reproductive organs require months and sometimes years for their normal, healthy establishment. At this time the girl's future health is at stake, but in spite of this fact the modern girl too often arrives at the age of puberty unprepared, either physically or mentally, for the great changes to which her nature is to be subjected, and because of her very unpreparedness her nervous system receives a severe shock.

Through the time of puberty, it is the mother who must look out for her daughter's health and guidance. There must be confidences on this subject between the mother and daughter, and the daughter

must be told of the importance of the change coming to her, and taught how to take care of herself. The girl should be made to realize that puberty is one of the turning points of her life and that upon compliance with the laws of health at this time depends the physical and mental welfare of succeeding generations.

The mother can give the needed advice in delicate, but unmistakable language, and by the attitude that she takes at this time forever make herself her daughter's trusted adviser in matters in which her broader experience gives her a better understanding.

Unfortunately, most mothers appear to be ignorant of the necessity of the special hygiene of puberty and menstruation. Such ignorance is deplorable in our advanced civilization, when in former ages the necessity of periodical care of women was appreciated; and even today primitive peoples observe such care. Huts were made by these peoples for menstruating women. The fact that they were built so that it was

impossible to do otherwise than lie down in them indicates the use for which they were intended.

Present-day notions of what ought to be done for a girl at her menstrual period swing from one extreme to the other: either the girl is left free to follow her own inclinations at this period; or else she is put to bed by an over-solicitous mother; in the latter case the girl imagines herself ill. Now the wise mother will avoid both these extremes. While realizing the necessity of rest and care, she will insist upon her daughter not dancing, shopping, or exposing herself to inclement weather; she will realize also the necessity of her daughter preserving an emotional calm at this time, and will herself practice calmness in order the better to teach her daughter its value. The main point to remember is that it is the whole woman, both mental and physical, who contributes to the makeup of a perfect child. The correlation of the harmonious action of every organ of the body and of every cell composing these organs

is the primary requisite for the production of a normal child.

Instructions on the care of girls for their physical development may be summarized as follows: The general condition of the body should be constantly kept up to the level of normal health. The body should not be compressed by tight clothes. Corsets and clothing worn too tight have been responsible in many cases for undeveloped breasts and nipples. (Women with undeveloped breasts and nipples are unable to nurse a baby.) The mind should be kept healthy and normal that it may react upon the body for the best development of the entire being of the girl. If these few rules are observed, there is little fear that the girl will not develop normally.

CHAPTER II

PRACTICAL FACTS ABOUT PREGNANCY

The following signs and symptoms aid the physician in diagnosing pregnancy:

(a) If a married woman who is in good health and in the reproductive period, menstruating regularly, ceases to menstruate, there is a strong probability that she is pregnant.

(b) Enlargement of the breasts with a tingling sensation in them, is not in itself of much value as an indication of pregnancy; but in connection with cessation of menstruation, it is of value.

(c) Morning sickness, with or without vomiting, often gives the pregnant woman the first indication of her condition. It occurs in a greater or lesser degree in at least one half of the cases and, taken with

other signs, it is valuable in making a diagnosis.

(*d*) Quickening, or “feeling of life,” meaning a sense of movement in the womb, usually occurs between the sixteenth and twentieth weeks, and is a definite sign; that is, if the woman has not mistaken the sensations.

(*e*) The discovery of the fetal heart sounds, and the locating of the child by the physician’s examination through the abdominal wall, is a positive proof that the woman is pregnant.

As a rule, the cessation of menstruation in a young married woman is not due to taking cold as is sometimes thought, and should not be so considered—neither should she, with that idea in mind, do anything to bring on menstruation. After the cessation of menstruation, it is always dangerous to interfere with Nature.

From the viewpoint of health, even apart from that of morals, artificial interruption of pregnancy by any means is dangerous.

A woman who marries should expect to

become a mother, but in the beginning of her married life she often implores her physician to free her from her maternal burden. To her the interruption of pregnancy seems a simple, harmless operation, but to one who knows, it is not so simple as it seems, for such an operation may leave a woman sterile, or render her an invalid.

The habit of preventing conception during the first years of married life by means apparently not harmful to the health often leads to years of regret in later life. Barrenness in a woman is frequently due to the successful prevention of pregnancy. Women give flimsy reasons for not wishing to bear children; they seem to forget that the justification and ennoblement of wedlock is the birth of children.

As soon as possible after it is known that conception has occurred, a pelvic examination should be made by the physician. This important matter is often delayed through the false delicacy of the woman, but the matter neglected may entail serious results.

The first movement of the child in the womb is like the flutter of a bird in a closed hand. It is about the seventeenth or eighteenth week of pregnancy that this movement is usually noticed, although it may be felt as early as the twelfth week, or much later than the eighteenth week. In fact, women have been known to go the full nine months of pregnancy and to give birth to a child without being conscious of any fetal movement.

The exact date of confinement can not be given, as we have no way of knowing accurately the time of conception. We may decide approximately upon the time that pregnancy will cease. Outside influences, such as falls or blows, often determine the date. From going over large numbers of cases, we know that the average termination of pregnancy is two hundred and eighty days from the beginning of the last menstruation. Another way, which is fairly accurate, of getting at the date is to count back three months from the beginning of the last menstruation, and add one year and

seven days: *e.g.*, Mrs. X. began to menstruate the last time on Sept. 3, 1918. From this date, count back three months, and add one year and seven days, and we have June 10, 1919. Or, if we add nine months and seven days to Sept. 3, 1918, we get the same result.

With the first baby, about ten days or two weeks before the beginning of labor, the prospective mother notices that her waist is smaller, that her clothes are looser, and that the position of the child is not so high; this means that the child has settled. To this settling of the womb we give the term "lightening before labor"—it is not so apt to occur in subsequent pregnancies. Because there is no way of finding out the actual date of conception, mistakes are inevitable in computing the length of pregnancy. In consequence, it is sometimes said that a pregnant woman has run over her time. Sometimes she does, but not often. The practicing physician watches a prolonged pregnancy carefully, and when convinced of its being longer than necessary,

terminates the case without harm to either the mother or the infant.

How sex is primarily determined is a problem not yet solved. The ratio of the sexes remains about the same the world over, and is about 106 males to 100 females. Neither climate nor food materially alters the ratio. There seems to be a strong probability in the theory that the determination of the sex of any individual is dependent upon the given ovum from which it is developed. The sex of this ovum probably is determined long before conception, perhaps even before puberty.

The diagnosis of the sex of the child before birth is uncertain. At birth as a rule boys are larger than girls and their hearts beat more slowly. Consequently, when the heart beats can be counted before birth, if they beat less than 140 to the minute, the child may be a boy, while if the beats are over 140 to the minute, the baby may be a girl. Any positive determination is impossible. There is nothing to the theory that the sex can be known by the

way the baby is "being carried." This is just another old-fashioned belief that has come down to us from somewhere.

CHAPTER III

THE HYGIENE OF PREGNANCY

A woman who is about to become a mother should have the most careful consideration from her physician. Pregnancy is supposed to be a normal process, but in spite of it there are few women who are entirely free at this time from some physical disturbance. Pregnancy has been defined as a "disease of nine months' duration," and when we consider the changes that take place in the entire female organism, it seems no wonder that it is so interpreted. Every part of the body is affected by the reproductive stimulus. For instance, to supply nourishment to the growing womb and its contents, the heart must increase its work, for it is through the blood that the fetus is supplied with food and oxygen. Then increased heart action is accompanied by an increase in the functions

of the kidneys, and these organs, in order to perform their work, must enlarge at this time. Even the glands of the skin are stimulated, and aid the kidneys in their work by eliminating through the pores some of the waste products of the bodies of both the mother and the fetus. The womb itself does not expand like a balloon, but grows by the increase in number and size of its muscle fibers. The adult non-pregnant uterus weighs about two ounces, but immediately after delivery, while the emptied uterus is contracting, it weighs from two to three pounds.

Much attention is given nowadays to the special hygiene of pregnancy. Physicians have learned from experience that the better care they give to the pregnant woman, the easier her labor, the quicker her recovery, and the healthier her offspring. At first these restrictions may be somewhat irritating to the patient, but even if she is compelled to deny herself many old pleasures, she may find new ones which will more than compensate for those lost.

DIET: 1. There is no reason why the diet should be changed much during pregnancy, providing that it always has been wholesome, and has previously caused no disturbance of digestion. At this time there is sometimes a craving for food which ordinarily is indigestible. It is better to resist this craving, and to hold to a simple diet, such as meat once a day, vegetables, eggs, cereals, stale whole wheat and bran bread and butter, fruit juices, cheese, nuts, salads and olive oil, milk, and sour milk made with Bulgarian tablets. These things contain all the nourishment that the pregnant woman requires. Fresh fruit, such as apples, oranges, grapes, with the seeds removed, grape fruit, etc., are especially good. Six glasses of water should be drunk daily. Cocoa and chocolate should replace tea and coffee.

2. As the child *in utero* gains most of its weight after the fifth month, and one half of that in the last two months, there will be more demand after the fifth month for foods that produce heat and energy. This



Abdominal binder.
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heat and energy should be supplied by milk instead of by heavy foods, such as meat, etc. Therefore, in addition to the regular meals, a glass of milk should be taken between meals and at bedtime.

3. That the mother should eat for two is an old but mistaken idea. An increase in the amount of food is unnecessary and serves to make only a greater tax upon the organs of elimination, a resulting interference with the function of the liver, and a consequent storing-up of toxic substances injurious to the general system. Furthermore, it is at this time, as well as at all other times, better to be underfed than overfed.

4. During the last two months of pregnancy the diet should be reduced. Red meats, steaks, roast beef and lamb chops should be eaten but two or three times a week, or entirely omitted, and these foods replaced by milk. At all times fresh pork, veal, white bread and biscuits, fried foods and gravies, condiments and vinegar, pastries, rich cake, should be omitted. Add

to the daily dietary milk or buttermilk and milk treated with Bulgarian tablets.

The heaviest meal should be taken in the middle of the day. The supper should be light, consisting of milk, cereals, toast, custard or stewed fruit and ice cream. Always remember that it is much better to leave the table hungry than with an overloaded stomach!

Frequently the pregnant woman has a sensation which she describes as a "gone-ness in the stomach," which may be accompanied by a feeling of faintness. At such times a glass of milk drunk slowly, or a crust of bread eaten, will suffice to correct the disagreeable sensation.

Over-eating and errors of diet often result in unduly increasing the size of the child before birth, besides which the amount of fat in the abdominal wall and the pelvis of the mother is increased, thereby hindering the progress of labor. A special diet is sometimes ordered in cases where in previous pregnancies the child has been abnormally large. It is only in



Elastic abdominal binder.

exceptional cases that such a diet is advised, provided the advice given above regarding the diet is followed. Of course the physician will modify the diet to suit special cases.

CLOTHING: Warmth and ease are the first considerations in the selection of clothes. Many ills of pregnancy come from wearing insufficient clothing. Wool, or silk and wool, garments varying in weight according to the season should be worn next the skin. The shoulders and arms must be covered; and low shoes and thin stockings are inadvisable. The outer garments should be of light weight and should hang from the shoulders; and heavy skirts, bands, belts, circular garters, etc., anything that restricts the body and retards its freedom, should not be worn.

CORSET: Fortunate indeed is the pregnant woman who has never worn a corset. Her abdominal muscles are strong; her back does not need a support. However, most women have become slaves to the corset, and as they cannot get on without it,



Maternity corset and breast binder.

something must be found to replace it during the pregnant state. This question has given the author much concern, and up to date he has been unable to find an adequate garment for the purpose; for any corset that restricts the abdomen, and restricts the free action of the abdominal muscles and the expansion of the growing womb, interferes with the free movements of the unborn child and is positively injurious.

There are many maternity corsets and maternity waists which, in lieu of anything better, we advise. The best known are the Ferris Maternity Waist, the Equipoise, the Reo Girdle, the Patterson, the Kabo, and the Roslyn. The illustrations shown are those submitted by a prominent corset maker; there are also similar designs made by other houses.

Frequently a maternity corset or supporter combines with a brassiere. These supporters have well-made backs that support the woman comfortably. The brassiere combination is satisfactory for women with large breasts; women with small breasts do

not need the brassiere. The corsets named are within the financial means of any patient. Abdominal supporters, such as the Algonquin, are advised for women who have pendulous abdomens. Then, there are many more expensive maternity waists and corsets that may be recommended, such as the Cienteure Corset. The elastic abdominal band is a favorite with many women and is highly recommended.

EXERCISE: A woman should exercise at this time, but not overdo the matter until she is too fatigued. Nor should she now attempt to make an athlete of herself if she has not taken much exercise before. Through the period of pregnancy, the heart has an increased amount of work to do, and it should not be over-taxed by injudicious calls made upon it. The results might be injurious to the mother and to the developing baby. Long trips, therefore, by train and motor are inadvisable, and also straining by lifting, and by bicycling, horse-back riding, climbing stairs rapidly, or too often



A maternity corset.



Back view of maternity corset.

sewing on the sewing machine, swimming, dancing, running, tennis, or golf.

But a certain amount of housework is beneficial, such as sweeping, bed-making, going to market; there is no form of exercise for the pregnant woman so good as that of walking. Select an hour every forenoon, rain or shine, and take a walk, the distance depending upon the individual. In the afternoon at a stated hour take another walk. Let nothing interfere with these walks. Make them a habit. For those who can not walk, massage should be substituted. Hanging window curtains or pictures and climbing up step ladders are dangerous, although reaching up does not put the cord around the neck of the child, as is so popularly supposed. In addition to the walks deep-breathing exercises should be taken. Deep-breathing will exercise the muscles of the chest, fill the lungs with more air, and this supplies more oxygen to the blood. Several times a day the lungs should be emptied of air and then



Exercise.
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slowly filled by breathing through the nostrils.

THE BATH: The bath is of great importance during pregnancy. It is estimated that a healthy person eliminates through the pores of the skin at least a pint of water a day; so, if the pores become clogged by the inactivity of the skin, the waste matter must be passed off in other ways, by the lungs, the bowels, and the kidneys. Since the skin increases its activity at the time of pregnancy, it must be kept healthy in order to maintain its function as an excreting organ. When the surface of the body is healthy, besides relieving the lungs, bowels, and kidneys of much work, the digestion is aided.

Cold baths, if the patient reacts to them, are excellent. However, after a cold bath, the skin should be rubbed until it glows. A warm bath must be taken occasionally for the cleansing of the skin, but the most effective bath is the tepid bath, and it should be taken in the morning before breakfast, or between breakfast and luncheon in order

to get the best results; it should never be taken until two hours after a full meal. A warm bath may be taken at night if the patient is restless.

A full bath should not be indulged in after at least one week previous to the beginning of labor. A shower or sponge may be substituted. While waiting for her physician it is customary for the patient to take a full tub bath as soon as labor begins. This is inadvisable, because of a possibility of contaminated water gaining access to the vagina.

FRESH AIR: If every pregnant mother could have all the fresh air she could breathe what a healthy race of people we should have. The expectant mother who sleeps in the open air furnishes more oxygen to the unborn babe and gives it a better start in life. As sleeping out can so seldom be done, the next best thing is to see that the pregnant mother occupies a room well ventilated and one that has plenty of sunlight. An open fireplace and open windows afford the best ventilation in the average

home. Let the few following suggestions aid the young mother:

Be out of doors as much as possible, and in winter select a room which has the most sunlight.

Keep out of crowds. In daily outings go toward the parks rather than into the crowded districts and shops. An occasional evening at the theatre is harmless and a diversion, providing the play does not excite undue emotion and is not given in a crowded and poorly ventilated building.

THE BOWELS: Since women as a rule suffer considerably from constipation, they may hardly be expected to overcome this trouble during pregnancy, unless they follow a strict regimen against the tendency. The usual causes of constipation are improper diet, lack of exercise, and constriction of the abdomen by clothing. If women follow the general rules of hygiene in pregnancy as prescribed in these pages, the bowels will act more readily. The following suggestions are made for

those chronically constipated: Try to evacuate the bowels at a regular time every day, but there should be no straining. If the effort is not successful, a glycerine suppository or a low enema of water may be used.

In addition to the diet mentioned, it is beneficial to add cracked wheat bread, oatmeal, farina, graham and rye bread and bran muffins; new bread or hot biscuits should not be eaten. The eating of apples, oranges, and grapes without seeds is better than eating the seed fruits, *i.e.*, strawberries, blackberries, etc., which are not considered good in cases of constipation; nor should bananas be eaten because of their constipating effect. Some patients may not be able to digest raw fruits, but they may be able to take care of stewed or cooked fruits. When the patient gets up in the morning, she should drink a glass of cold water and eat an orange or an apple. She may repeat this at bed time. She should drink plenty of water between meals. She should thoroughly masticate all

foods, even milk should not be swallowed until thoroughly mixed with saliva. If, in spite of taking these precautions, constipation persists, resort must be had to drugs. Aromatic cascara, from one half to one teaspoonful at bedtime, is usually effective. Mineral oil in tablespoonful doses taken daily is very beneficial. Agar, mixed with the morning cereal, is often sufficient, and senna, and senna and prunes, figs, etc. (see appendix for formula), are effective.

MORNING SICKNESS: In the minds of many women, morning sickness is connected inseparably with pregnancy. This experience need not accompany pregnancy, although in the majority of cases it does. The nausea appears shortly after the first missed period, and frequently in the morning, generally when the patient arises. However, it may occur any time in the day. If it be mild and last for a few moments only, there is no necessity for medical treatment, but if it continue, occurring several times a day, with vomiting, the physician should be consulted. When a young woman

has just left home, and is more or less missing the mothering she has been accustomed to, a visit home will sometimes cure the nausea, and occasionally a meal out will have a beneficial effect upon the patient; for this sickness is not altogether physical and must not be treated as such. Various causes—homesickness, the odors of food, etc.,—have their influence upon the symptom.

HEARTBURN: Acid eruptions, accompanied by a sensation of burning which extends from the throat to the stomach, frequently occur. These are also accompanied by pains, sometimes severe, that pass through the back, and often there is considerable tenderness over the stomach.

These symptoms frequently arise through some error in the diet, or are due to constipation. For relief, one-half teaspoonful of bicarbonate of soda in one-half glass of water should be taken, or one of the effervescing alkaline mineral waters should be drunk after or during the meal; calcined magnesia is good also. But if these dis-

turbances continue, the patient should consult her physician.

Raw apples, strawberries and grapefruit often cause heartburn and immediate relief frequently follows a discontinuance of such fruits in the diet.

THE KIDNEYS: Much regarding the health of a patient may be ascertained by a careful examination of the urine; therefore, every two weeks during pregnancy three or four ounces of urine should be sent to the physician in a clean bottle, properly labeled. A twenty-four hour specimen should be analyzed occasionally, and is obtained as follows: At seven o'clock, or at a stated time in the morning, the bladder is completely emptied and the urine thrown away. From then on all urine that is voided, together with that passed at seven the next morning, is saved in one vessel; the total amount is measured, and a sample of three or four ounces taken from the mixed quantity. The urine in the meantime should be kept in a cool place. The sample is then sent to the physician, marked as follows:

For Dr.....
From Mrs.....
Twenty-four hour specimen. Total.....ounces.

It is imperative that these samples should be sent regularly to the physician. His other duties often prevent him from asking for them, and therefore every mother must take upon herself the responsibility of following up this matter.

Sometimes a patient gives "not having a bottle handy," as an excuse for not sending in the specimen of urine. Send to your druggist and obtain a dozen four-ounce bottles with as many clean corks. Put them away where you can find them, and you'll not be likely to neglect a very important matter.

THE SKIN: Pregnancy sometimes causes marked discolorations of the skin. These pigmentations are usually seen around the nipples, the naval, and in a line running from the navel downward, although occasionally the face will be quite blotched with this pigment which resembles freckles. These discolorations, or mask of labor, as it has been called, disappear.

IRRITABILITY OF THE BLADDER: The growing womb pressing on the bladder often causes disturbances in the functions of that organ, and causes the patient to urinate with annoying frequency. There are two periods when this discomfort is most likely to occur; in the third or fourth month of pregnancy, or in the last week or two before the confinement. There is not much that can be done to relieve this symptom. Resting on the bed in the knee-chest position—that is, kneeling with the hips as high as possible, and with the chest and shoulders and the head close down on the bed, and remaining there for a few minutes at a time—will often give temporary relief. If, in the latter weeks the patient wears an abdominal supporter, it will remove some of the pressure from the bladder, and thus relieve the irritability.

HEMORRHOIDS: Hemorrhoids frequently are quite annoying, and often appear in the last weeks of pregnancy. If they are due to constipation, which is a frequent cause, correcting the constipation cures the hemor-

rhoids. To relieve immediate pain, apply hot fomentations of witch-hazel compresses. No matter what causes this trouble, a physician should be consulted.

THE DOUCHE: Many women believe that during pregnancy the taking of a vaginal douche should be a daily or weekly practice. That this douche often does more harm than good is apparent to physicians; much of the pelvic distress from which women suffer is due to its frequent use. It is impossible to insert the douche point as it is ordinarily done without carrying infected matter into the vagina. There is no good reason for the use of the vaginal douche during pregnancy, unless there be an acrid or irritating discharge. In the latter case, treatment under the direction of a physician is necessary.

THE BREASTS: During pregnancy the surface of the breasts should be washed daily, either with liquid or castile soap and warm water, then rinsed in cold water. During the last two months the nipples should be anointed with cocoa butter. Alcohol, which

is so generally used, is an irritant, and had better not be used. Sometimes the following lotion may be used for a short time with good results. The formula of the lotion is:

Glycerite of tannin.....	Half ounce
Compound spirit of lavender.....	Half ounce
Water	Three ounces

If the nipples are flat, a gentle effort should be made daily to draw them out. If the breasts are large and heavy during pregnancy, some form of supporter should be worn.

A month or two after the beginning of pregnancy, the breasts begin to enlarge, usually slowly, but sometimes the change is quite rapid. This enlargement is accompanied by a tingling or slightly painful sensation. Also about this time the skin around the nipples becomes dark, forming a ring or areola, from one to one and a half inches in diameter. Later, due to the stretching of the skin, there may appear on the outer surface of the breast shiny lines or "striae," especially on the under and lower side of

the breast. Attention is called to this fact because of the alarm it sometimes causes the patient, and because the physician is sometimes blamed for these marks. The striae are harmless and can not, so far as is known, be prevented. The presence of these variations from the normal breast is strongly suggestive of pregnancy, especially in a woman who has never borne children.

CARE OF THE TEETH: The rapid decay of teeth which sometimes occurs during pregnancy is caused partly by acid eruptions which come from the stomach's increased acidity during the first months, and partly, by the loss of the mineral matter which the mother must give to furnish the tissues of the infant. A dentist should be consulted frequently, and if the patient has any cavities, they should be temporarily filled; but severe dental work should not be done at this time. Milk of magnesia, lime water, or a solution of bicarbonate of soda are efficacious in arresting the decay of the teeth—a teaspoon of the soda to a glass of water. One of these solutions should be used as a

mouth wash after each meal and at bedtime. A good mouth wash is made of boric acid solution and a few drops of oil of cloves.

In some cases during pregnancy the saliva becomes markedly increased, the hypersecretion being often quite annoying. This is usually a slight complication, and frequently is due to an error of diet which should be corrected.

SWELLINGS: Enlarged veins which show upon the surface of the body are common in pregnancy. They are found usually upon the legs, and occur, as a rule, in women who, prior to the pregnancy, have not taken the best care of themselves. These varicose veins often occasion a good deal of itching, burning, and even pain. The preventive treatment is in discarding the corset or tight waistbands and circular garters. The active treatment is resting with the feet elevated and bandaging the legs. Under no circumstances should a vein be punctured with a pin or needle.

EDEMA: A swelling of any part of the

body must be reported to the physician. While this symptom may mean nothing, it usually calls for treatment. Sometimes a pregnant woman says to her physician, "My feet are so swollen, I had to put on my husband's slippers." This is a significant fact and the patient should be put to bed and given careful treatment. A few days of rest and quiet will usually suffice to correct this trouble.

The pressure of the growing womb sometimes causes stagnation of the venous circulation, which produces a general swelling of the lower limbs. An occasional rest in bed will relieve this trouble.

MENTAL CONDITIONS: For some unknown reason, the laity have the idea that unborn children can be marked by the psychic impressions of their mothers. Some accident, which the mother has witnessed during pregnancy—the sight of a deformed or ugly person, or of a strange animal which has happened to cross her path, "they" say, has been photographed on her mind, and may be reproduced on the unborn child. A little

reflection shows how absurd this belief is. If such a theory were true, nearly every child—as nearly every prospective mother has seen strange sights—would be deformed. The sooner this subject is dismissed from the mind the better, for there is nothing upon which we may scientifically base the belief.

Keeping oneself in a happy frame of mind by reading good books, enjoying beautiful music and pictures, tend to affect mind and body favorably, and have a healthy reaction upon the child.

Through heredity, the maternal influence is stronger upon the child than the paternal influence; therefore, the results of education, morality, temperance, and health in the mother are very apt to be re-manifested in the child. This being the case, the mother should not wait until the beginning of pregnancy to develop her physical and mental completeness; her culture for childbearing must come through previous years of training.

The pregnant woman seems to be the prey

of gossip-mongers, of women who feel it their duty to pour into her ears all that is connected unpleasantly with childbirth. Such gossips should be strictly avoided. They are unfortunate women who have not the delicate sense of feeling which is expected of the gentler sex, and while they appear to be friends, they are ever ready to make the life of the pregnant woman miserable. The fact that from the beginning of the human race women have given birth to children should encourage the expectant mother in the belief that she is not an exception to the rule, and can have her baby as did the women before her.

The following symptoms may mean nothing, but at the same time they may indicate a condition which must be corrected; *viz.*, headache, toothache, neuralgias, dizziness, vomiting, swelling of any part of the body, blurring of vision. Any one of these may indicate a toxic condition, which, if allowed to continue, might lead to a serious condition. The physician must be advised if any of these conditions appear.

It is well for the pregnant woman to follow a few rules during pregnancy:

1. Walk in the open air daily.
2. Do light housework.
3. Keep the house well ventilated and sleep with the windows open or, better still, sleep out of doors, if possible.
4. Drink several glasses of water daily.
5. Bathe every day.
6. Wear suitable clothing for pregnancy. Do not constrict the body.
7. Do not over-eat.
8. Have the urine examined frequently.
9. Prevent constipation.
10. Do not worry; be optimistic and happy.
11. Consult your physician frequently.

CHAPTER IV

PREPARATION FOR CONFINEMENT

CLEANLINESS—ASEPSIS: During the whole puerperal period the value of surgical cleanliness to both mother and child is so great that it justifies the old saying, "Cleanliness is next to Godliness." Indeed, the main object of a physician throughout the entire case is to employ such surgical asepsis as to keep the mother free from disease and, through her to give the child every chance to develop healthily. It seems strange and unnecessary to many people that there is such a radical change in the treatment of confinement. But, as a matter of fact, surgical cleanliness was just as necessary in the pre-aseptic and pre-antiseptic days of our grandmothers as it is now. In those times, childbirth fever was the rule and not the exception. But now, thanks to our

knowledge of bacterial infection and our application of surgical cleanliness, this disease is rare if the patient be under the care of a physician who practices surgical cleanliness.

It was not the author's intention to say that which would lead the expectant mother to think any harm would come to her at the time of the birth of her baby, but he feels he must say as much as he has said to reassure her against the criticisms of those who consider surgical cleanliness unnecessary. Statistics will show why all this "fuss and feathers" is necessary, so necessary that we wonder how a mother a long time ago passed through her confinement successfully.

We find that by sterilizing all the articles that come in contact with the patient, we destroy practically the micro-organisms which cause childbed fever. In addition to the above precaution, the nurse and physician must cleanse their hands thoroughly by scrubbing them with soap and water, and wear rubber gloves in order not to carry

infective organisms to the towels, sheets, etc.—that have been sterilized already. At this time, we must use sterilized water. The water that comes from the tap contains germs, so we boil that water to destroy them. There is another way of destroying germs in water, and that is by adding carbolic acid, bichloride of mercury, etc. This way is impracticable, for if we use enough of such antiseptics in the water to kill the germs, it makes the solution too strong for our use.

ARTICLES STERILIZED: To assist in carrying out this application of cleanliness, the trained nurse must see that the list of articles required for the confinement is complete, and that these articles are sterilized at least three weeks before the expected time.

- 3 hand brushes, wooden backs
- 1 nail file
- 2 pair rubber gloves
- 6 sheets
- 6 pillow cases
- 2 dozen towels
- 2 surgical gowns
- 1 pair duck trousers

- 1 long nightgown
- 3 short obstetrical gowns for patient
- 2 pair white stockings, opera length
- 5 dozen perineal, or obstetrical pads
- 4 accouchement bed pads
- Cotton pledgets, half pillowslipful
- Gauze sponges
- 12 breast towels
- 6 breast binders
- 4 abdominal binders
- obstetrical tape
- 3 cord dressings
- gauze for packing, 13 yards
- applicators, one box
- 6 flannel bands for the baby
- 4 T bandages

Physician's list of articles: The nurse will also see that a physician's list has been furnished and is at hand. It is as follows:

- 3 quart fountain syringe
- 1 Perfection bed pan (granite)
- 2 yards rubber sheeting
- 3 granite basins (medium)
- 2 granite pitchers, 2 and 3 quarts
- 1 pint alcohol
- half ounce 1 per cent. silver nitrate
- 1 ounce fluid extract ergot
- 3 ounces Squibb's chloroform (original bottle)
- 4 ounces lysol
- bichloride tablets
- 4 ounces boracic acid crystals
- 6 ounces green soap
- 2 straight medicine droppers
- 2 No. 2 rubber catheters

PREPARATION FOR CONFINEMENT 59

- 4 ounces alboline
- 1 glass drinking tube
- 1 screen with firm frame
- 1 clothes bar, nursery size
- 30 yards bleached dairy cloth
- 5 yard jar borated gauze

For those who can not afford all these articles, the list may be modified.

Frequently the patient or a member of the household must make all the preparation for the confinement. In such cases the following instructions will be found useful:

Take a few old sheets and towels, and some old linen and cheesecloth, and wrap each piece in a separate cover, and then in a newspaper. Any old cotton or linen which has been left from a previous confinement, or sent in by the neighbors, must also be sterilized. At the same time, make the bed pads, a yard square, quilted or tacked, and wrap these as you did the other articles. Put the package into the oven until the paper becomes quite brown, then put them away and do not open them until the physician arrives. If you haven't a rubber sheet, use an oil cloth. Basins and pitchers

should be boiled for one-half hour in a large receptacle such as a wash boiler, and they, too, put away.

THE NURSE: For carrying out the laws now set down in the practice of obstetrics, particularly those of surgical cleanliness, the trained nurse is a necessity. The physician should select the nurse. The obstetrical nurse must have special obstetrical training. She must be not only a capable surgical and medical nurse, but also a woman capable of taking care of babies. She should be engaged early and for a definite time. Otherwise, when called, she may be on another case. When engaged to come at a certain time, her pay begins on that date whether she be with the patient or not. Sometimes a patient prefers to have the nurse within easy call than to have her wait in the house.

As a rule, the nurse is a refined and educated woman, and accordingly she should be treated as one of the family, and not forced into seclusion as an outsider is. That she is human, and that she can not work night and day without sleep and rest is too often

forgotten. To give the best she has of her nursing skill, she must have her rest and sleep, and a daily outing of at least an hour.

THE LYING-IN-ROOM: When the nurse calls to do the sterilizing, the room for the confinement should be selected. This must be one with plenty of sunlight and fresh air, in a very quiet part of the house, on the same floor with the bath, and should connect with the other rooms for the nurse and baby. It should contain an open fireplace, which ventilates the room, and in which a fire may be built when the weather is cool. It is best not to have a stationary washstand in the room.

All the draperies at the window and about the bed should be removed and the carpet taken up, and the furniture should be as simple as possible, and of a kind that can be washed.

The room should be thoroughly cleaned and aired and, if possible, fumigated, especially if there has been any recent illness in the room. All the bedding must be cleaned and fumigated, including the mat-

tress. A single bed is better than a double one.

THE SHOW: This is a term given to a discharge which often comes at the beginning of labor. The discharge consists of a thick mucous, more or less stained with blood, and indicates that the lower part of the womb is dilating.

The bag of waters may rupture before the beginning of labor, and if it does, there is no reason why the patient should be alarmed. She should go to bed, however, and send for her physician.

LABOR PAINS: During pregnancy, the uterus alternately contracts and dilates, becoming hard and soft at shorter and longer intervals. The woman is made aware of these contractions and relaxations by feeling the abdomen become hard and seeming to rise up higher, and then become softer and settling down again. When labor begins, the same thing goes on, but with each contraction there will be some pain starting at the small of the back and radiating toward the front. Usually these pains and

contractions are far apart, perhaps fifteen, twenty, or thirty minutes apart; but as time goes on, the intervals shorten. The pains are usually felt in the back, then as the intervals grow shorter, they move more to the front. When there have been two or more such contractions with pain, the physician should be notified and the nurse sent for.

The nurse will now be employed in making those preparations for the confinement that have to do with the patient. First, the patient's bowels are moved by an enema of soap and water. Then the nurse shaves the pubic hair, and gives the patient a full bath of warm water with plenty of soap. This bath should be followed by a shower, with the patient standing in the tub. The nurse now bathes the parts from the breasts to the knees with a solution of bichloride of mercury, 1-5000. Then she dries the patient with sterile towels, and puts on the underwear which has been sterilized, and over this she slips a robe. The hair is now brushed and combed thoroughly and braided. After this the patient may lie down if she wishes;

her feelings direct her actions. The room, which has been prepared before, is now kept warm, because the patient's clothing is thin.

The nurse, having finished with the patient, prepares the bed. First, she covers the mattress with a pad and then with the rubber sheet. On this she lays a clean white sheet, and over that, a small one of rubber. Then she covers the latter with a white sheet, folded once. This, called the draw sheet, she places across the center of the bed, and doubles it under the mattress on either side. Then she pins these things firmly to the mattress with safety pins. From this time on it is her duty to keep the bed clean and free from outside contaminations, such as any member of the family might bring into the room. Therefore, anyone entering the room must be provided with a sterilized gown.

The birth of the baby is now a matter of a short time.

As a rule, relatives and friends are in the way at the time of the confinement. The

patient is much better off with the physician and nurse only, for the sympathy of the patient's mother and relatives frequently interferes with their good judgment, and they urge things done that jeopardize the welfare of the patient.

Occasionally the labor is preceded by a flow of clear fluid from the vagina, coming either slowly or with a gush. This discharge is the water which is enclosed in the sac with the baby. Labor usually commences soon after this rupture of the sac. Sometimes, however, it may be delayed several hours or even days, resulting in what is called "a dry labor." As a rule, however, there is only a short interval of time between the rupture and the beginning of labor.

CHAPTER V

CONVALESCENCE FROM CONFINEMENT

Following the birth of the baby, since the mother is cared for by the nurse, it is not necessary to give any directions to the mother except to tell her to remember that the nurse represents the physician and will carry out his instructions, and that while these instructions may not correspond with the ideas of the family and of their friends, or even with the ideas of the nurse, yet the nurse must obey instructions, and the family obey the nurse. She is an experienced person and should not be directed by anybody but the physician. By the family's interference, this period may be made very irritating to the patient, and outside interferences are always embarrassing to the nurse. In most cases when differences arise



between the nurse and the family, the fault is with the family.

COMPANY: At first, the nurse must not let anyone but the immediate members of the family visit the sick room. However, as convalescence progresses, there is no reason why she may not admit a friend or two. The nurse must be the judge as to whom the patient may see, and how long she may stay. Most women need rest at this time, but while company tires them, a cheerful, happy friend will often act as a tonic. With the care of the mother and the babe, time passes rapidly. First, there is the toilet of the mother to be made, then that of the baby; then there is the forenoon lunch and nap. And as at regular intervals the baby is nursed, there is not much time for company. Other reasons why friends should not be admitted are that they often make the patient nervous, and that they sometimes carry infection.

REST AND EXERCISE: When we stop to consider what the mother has gone through during the past nine or ten months, it is

difficult to understand how any sane person can argue that a convalescence involving a certain number of days in bed is unnecessary for her. In the best interests of the patient, both mental and physical rest is necessary.

After the first week, and while she is still in bed, a little exercise in the form of general massage should be given the mother every day. A few exercises of the legs and arms, together with deep inspirations, may be taught her by the nurse.

GETTING UP: The time for getting up depends upon the patient. There are some women whose recovery is so rapid that they are able to get out of bed in a week, while there are others who require two, three, or even four weeks of rest. Much depends upon the character of the confinement and the recuperative powers of the woman, and also upon the character of the vaginal discharge—lochia. When the lochia has gone through the characteristic changes and is no longer red, but white and scanty, the womb is considered to be in an advanced stage of

involution, and the mother is advised to sit up, provided she is otherwise in a healthy condition.

Experience has proved that ten days is the average length of time the patient should remain in bed after the birth of the child. On the day decided for the patient to sit up, she is allowed to do this for half an hour in the morning, and if it does not fatigue her, she may sit up again toward evening for the same length of time. The next day the time is lengthened, probably by half an hour, and so on from day to day. By the end of three weeks she may be taken down stairs. At the end of four weeks, if the weather is favorable, a short drive is allowed. Should the flow recommence, she is put immediately to bed to remain until it has ceased.

From now on, the recovery of the patient should be rapid. Unfortunately, however, many mothers are compelled to take up, with the additional care of the baby, their household duties where they left them two or three weeks before. A few women are



Breast binder used during convalescence.

able to thrive in spite of this, but the majority are not, and for the latter, the result is backache, lassitude, diminished milk supply and, frequently, a general breakdown.

The new mother should be free from care and worry, should be able to take outdoor exercise, and obtain as much uninterrupted sleep at night as possible. Fresh air is as necessary to the mother as to the baby. The outings should be taken in the park, and not in the crowded, poorly ventilated stores.

The question is often asked by the woman as she begins to get around the room, "When may I put my corset on?" The answer is, "Not for six weeks, at least."

AFTER-PAINS: Some women suffer more or less from painful contractions of the uterus following the birth of the baby. These pains rarely last longer than a few hours, and are usually a good sign, and indicate the firm contraction of the womb and an early return to its proper size and condition. When the infant is put to the breast these pains are often increased for the moment.

DIET: It was formerly customary after the birth of a child to keep the mother on a diet of skimmed milk and water. This treatment is now obsolete, and the patient is dieted as anyone not taking exercise should be. She is given nourishment according to her ability to digest it.

There should be the usual three meals a day, and between these and at bedtime a glass of milk or gruel should be given. For the first day or two the diet should be somewhat lighter than on subsequent days. It may be selected from the following list:

DIET FOR THE FIRST TWO DAYS: Milk, hot or cold, one or two quarts a day; gruel; soup; clam broth; beef tea; cereal; soft boiled egg; toast and eggs; chocolate or tea.

DIET FOR THE THIRD DAY: Milk, milk toast, poached egg, soups thickened with rice or barley, cereal foods, wine jelly, stale bread and butter, lamb chop, stewed fruits, cup of tea or chocolate.

DIET FOR THE FOURTH DAY: The same as the third, with the addition of white meat of fowl, squab, oysters, raw or stewed, baked or mashed potatoes, ice cream and ices.

DIET FOR THE FIFTH DAY: Same as the fourth, with perhaps steak once a day, eggs, fresh fish, mashed potatoes.

From now on until the mother gets up, a sufficient diet may be selected from the

list of sample meals. Instead of milk between meals, a cup of chocolate or cocoa with a wafer may be substituted. It may be necessary, if there be too much milk in the breasts, to discontinue some of the fluids for a few days. Oranges, lemons, strawberries, grapefruit, plums, and tomatoes may be added to the diet from time to time. Tea does not produce an increased flow of milk. In fact, it has a tendency to retard the flow. It should be taken sparingly, if at all, by the nursing mother.

The convalescent should refrain from such foods as may have disagreed with her before pregnancy. The following things should not be eaten: Fresh pork, canned beef, sausage, veal, turnips, cabbage, canned peas, beans and corn, cucumbers, vinegars, highly spiced dishes, French or mayonnaise dressing, gravies, spiced sausages, heavy pastries, and hot breads.

Sample meals for use after the fifth day:

BREAKFASTS:

1. Any breakfast cereal, soft egg, tea.
2. Orange, cereal and cream, scrambled eggs, tea or cocoa.

3. Cereal, broiled white fish, bread and butter, tea, coffee, or cocoa.
4. Eggs, soft boiled, creamed potatoes, toast, tea, coffee, or cocoa.
5. Orange, scrambled or dropped eggs, minced chicken, graham bread, cocoa.

DINNERS:

1. Broiled or roast chicken, sweet potatoes, baked custard.
2. Roast lamb, mashed potato, macaroni, wine jelly.
3. Roast beef, celery, mashed potato, rice pudding.
4. Simple soup, chicken, potato, baked custard.
5. Raw oysters may be added to any of the above dinners.

SUPPERS:

1. Creamed chicken on toast, milk or cocoa.
2. Oyster stew, bread and butter, cocoa.
3. Minced chicken on toast, baked apples and cream, tea.
4. Dropped eggs on toast, graham bread and butter, cocoa or tea.
5. Raw oysters may be added to any of the above suppers.

BOWELS: The bowels should be moved on the morning of the second day following labor. The nurse will have instructions on what to give for the purpose. One ounce of castor oil is the usual cathartic given, but if the patient seriously objects to this, she may be given a bottle of effervescent solution of citrate of magnesia. However, castor oil may be given in a variety of ways so that it will not be unpleasant (see appendix). Afterward, each morning, if neces-

sary, a saline enema is given, and if this is not effectual, one teaspoonful of cascara evacuant should be taken every night, or one-half teaspoonful three times a day.

It is natural that a woman should wish to regain her figure after childbirth. Often, after the birth of the baby she is left with a large abdomen, which is termed "high stomach," and which no woman likes the appearance of. This condition may be caused by several things, and may or may not be the immediate fault of the woman herself. It is her fault if she settles back on her heels, carrying herself indifferently, after she is up and around. But more often the cause dates farther back, sometimes to the lack of exercise in her girlhood, or to the wearing of tight corsets at that time; although still more frequently pregnancy is the sole cause. During pregnancy and labor there is an over-distension of the abdominal muscles, and if these muscles are inclined to be weak they will not react readily. There are times also when the fault lies with the convalescence (permit-

ting the patient over-indulgence, etc.). A woman has an idea that if she is properly bandaged after the birth of the baby that in itself will give her back her figure. While a bandage is a good thing as an aid, still it has but little to do with strengthening the muscles of the abdominal walls and bringing them up to their normal vigor.

What really counts in the case of the woman regaining her figure is the effort that she herself is willing to make; in other words, it is within her own power to regain her figure, and the physician is in no wise to blame if she does not.

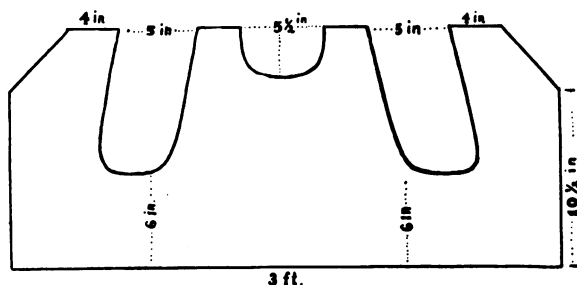
The cure is easy. All that the woman has to do is to have the abdomen massaged the first week after labor—her nurse can do it for her—and to take deep breathing exercises. She may begin these in bed, taking long breaths slowly several times a day. And when she is allowed to get up she must continue her exercises in a standing position, erect with the shoulders up and the chest well out, and the abdomen

in. If she does these exercises persistently, and lives a normal life of diet, rest and fresh air, with walking added as soon as possible, there will be no such thing as "high stomach."

SUGGESTIONS TO LAY NURSE: Frequently the mother has to depend on some member of the family or on an inexperienced nurse to take care of her and the baby. And while this book is not intended as a guide for nurses, still a few suggestions may be given here:

After the baby has come, make the mother comfortable and clean. Put a clean pad over the vulva. Change these pads every hour or two. Fresh pads may be made from time to time and they should be baked in the oven. Do not let them accumulate, but destroy immediately after use by burning. Several times a day put the patient upon the douche pan and irrigate the external parts with the antiseptic solution prescribed by the physician in charge. Never use wash cloths or soiled linen to cleanse these parts. Boil the entire syringe and keep it in a clean

towel. Always before changing the pad, wash your hands thoroughly with soap and water and scrub in some antiseptic solution. The abdominal binder may be used after the first or second day and applied loosely.



Pattern for breast binder.

Always have the linen about the breast scrupulously clean.

Put the breast binder on within the first twenty-four hours. Keep it loose at first, and as the breasts become filled with milk draw it a little tighter for support, to prevent the breasts from filling too rapidly. At the same time this binder will hold in place a clean piece of linen or gauze over the nipples.

On the second day give the patient a dose



Breast and abdominal binder after confinement.

of castor oil or other cathartic ordered by the physician.

Wash the nipples before and after each nursing with a boric acid solution, which should be kept in a bottle especially for that purpose. Make a fresh solution of boric acid every two or three days.

ABOUT THE BABY: Cleanse the baby the first time with lard, olive oil, or vaseline. Previous to this, and as soon after the birth of the baby as possible, drop into each of its eyes, one or two drops of 1 per cent silver nitrate solution. Now wash the end of the cord with alcohol, and wrap the cord in sterilized gauze—this dressing must be kept dry and changed if moist, and held in position by a binder which should not be put on too tight. Always irrigate the eyes of the baby daily with a fresh boric acid solution. Wash its face, head, and hands daily, with pure soap and warm water, but oil the rest of the body until the cord drops off. Be careful to keep the soap out of the eyes. The baby should be put to the breast six or eight hours after birth and then at intervals of

four hours. Water not sweetened, but warm, should be given to the child several times a day.

Always wake the child if it is asleep at the time of nursing. Troublesome symptoms are not likely to appear if the nurse follows these directions, or modifies them, when necessary, according to the directions of the physician in charge. Remember that regularity and cleanliness are the principal requirements in the care of both the mother and the infant (see schedule for feeding infants).

PART II
DEVELOPMENT OF THE BABY

CHAPTER VI

DEVELOPMENT OF THE BABY

The new-born babe is helpless and unconscious of its surroundings. It opens its eyes and cries; it urinates and its bowels move; it nurses when put to the breast; when placed upon the bed it is unable to change its position; it is not disturbed by noise, and it doesn't sense odors; it can not distinguish objects, and does not wink when a finger is put close to its eyes. It probably has no distinct voluntary action; all its senses are practically dormant. The young infant sheds no tears, and though it may cry and the eyes become moist, tears do not actually flow until the baby is three or four months old. At the age of six weeks, it begins to fix its eyes upon objects, and at the end of two months, its vision is complete.

When about three months old, it makes

efforts to grasp objects. At the end of six months it will amuse itself with toys. After three or four months the baby can hold up its head, but does not sit up unsupported until it is about six months old.

Infants seem to be deaf for the first twenty-four hours after birth, and some claim that babies are deaf for several days. A child at the age of from two to three months will turn its head in the direction from which a sound comes. When three and a half months old, it recognizes the voice of the nurse and the parents.

Infants have taste developed at birth—they will take sweets, and make wry faces at bitter substances.

The normal temperature of the baby is from $98\frac{1}{2}$ to 99 degrees Fahrenheit, and it should be taken in the rectum. The thermometer should be left in the rectum usually about three minutes. Often the baby will have a temperature of from 100 to 102 degrees, or even as high as 103 degrees, without alarming symptoms; however, in

such cases the physician should be consulted.

In the hands of an intelligent mother, the clinical thermometer is a very useful article, but the mother who loses her self-possession and becomes excited if the baby shows a rise in temperature is not the person to use it. However, the record of the thermometer is a valuable guide to the physician when talking with the mother over the telephone.

Before inserting the thermometer in the rectum, lubricate the end with vaseline and see that it has been shaken down to register below normal.

The child's respirations when awake are irregular. It may hold its breath for a short time and almost immediately afterward breathe without any apparent effort. For the first three weeks, the average number of respirations is about 40 a minute, and during the remainder of the year the average is about 30. From one to two years old, 28 is the average. The respiration rate is somewhat slower when a healthy child is asleep.

By crying, by excitement and exercise, the pulse is influenced just as it is in an adult. At birth, the pulse-beats range from 130 to 150 a minute; during the first month, they vary from 120 to 140. From the first to the sixth month, they are about 130, and from the sixth month to the twelfth month, they are 120 a minute.

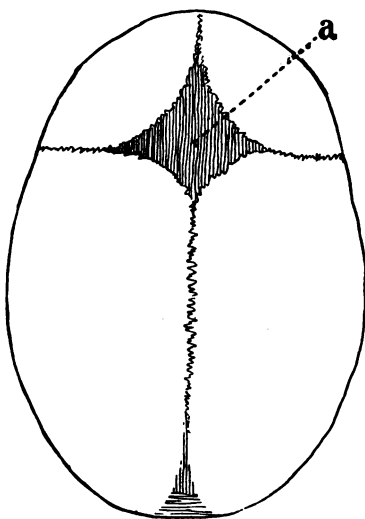
Babies are born usually with very little hair, although some few have a very thick growth. As a rule, the first hair begins to fall out after a week or ten days, and new hair appears. Often it is of the same color, but lighter in shade than it will be later.

If the white, sebaceous substance which covers most babies' heads at birth is carefully removed by oil, the scalp will remain clean and healthy. Should crusts form upon the scalp, they should not be removed by using a comb. Keeping the scalp well oiled with vaseline will aid in removing the crusts.

While babies are usually born with little hair, when the new hair appears, the growth is continuous. After several months, failure

of such growth to appear may mean that the baby is suffering from malnutrition. If such is the case, the physician's attention should be called to it.

At birth the head is usually out of shape, and is not formed as it will be later on. This deformity frequently causes the mother anxiety, but she may be assured that in a few days what appeared a defect will have been corrected by Nature. This seeming deformity is due to a wise provision of Nature which allows the bones of the head to overlap during birth, diminishing its size for the time.



The illustration shows the soft spot and sutures of the baby's head. As before

stated, these sutures and the soft spot permit the bones to overlap during labor. The sutures close in the early months of the baby's life, and become solid. The "soft spot" gradually diminishes in size, and when the baby is fifteen months old, the bones have entirely closed.

The average baby weighs seven and a quarter pounds at birth. It is very unusual to see one weighing as much as the traditional ten-pound baby. The great weight of a baby is nothing to boast of. The newborn, heavy baby is not likely to gain proportionately in weight, nor be healthier than the seven-pound baby.

The baby should be weighed by the physician or nurse as soon as possible after its birth, and regularly afterward each day for a couple of weeks at a certain hour, either just before or after feeding. After this, Sunday morning may be the time chosen, and as the father is at home then, let the weighing be his duty. But for the first two weeks weigh the baby daily.

The weight of the baby and the date of



Satisfactory scale.

the weighing should be written, preferably in a record book which the physician may



Unsatisfactory scale.

see. If the infant is weighed with a certain amount of clothing, a duplicate amount of

clothing must be weighed and deducted from the weight of the baby. A most useful scale is the one shown in the illustration.

While the baby loses weight during the first few days, it regains it the tenth day, and should gain about an ounce a day in the last three weeks of the first month. In the second month it gains about an ounce a day, and in the third and fourth month about five ounces a week, so that its weight should be doubled at five months. For the next two months, it ought to gain about two-thirds of an ounce a day, and from seven to twelve months, about a pound a month.

If the infant loses in weight or fails to gain, there is something wrong, and the physician should be notified. While the child apparently may be well, it is sometimes impossible without the scales to say whether it is doing well or not. Any loss of weight may be due to the diminished quantity or the poor quality of the mother's milk. These things may be corrected if taken in time. In such cases, it may be necessary to add

some artificial feeding to that which the mother is able to supply. This subject is discussed in the chapter on feeding the baby.

HEIGHTS, WEIGHTS, ETC.: The average height of infants at birth is $20\frac{1}{2}$ inches. During the first year the baby grows in length a little more than eight inches. During the second year the increase in height is only three and a half inches. From this time on during childhood, the gain is from two to three inches a year.

HEIGHTS AND WEIGHTS OF BABIES

	Height Inches	Weight Pounds
Birth	20.8	7.8
3 months	$23\frac{1}{2}$	13
6 months	$26\frac{1}{2}$	18
7 months	$27\frac{1}{4}$	$19\frac{1}{8}$
8 months	$27\frac{5}{8}$	$19\frac{3}{8}$
9 months	$28\frac{1}{8}$	$20\frac{3}{8}$
10 months	$28\frac{1}{2}$	$20\frac{1}{2}$
11 months	29	$21\frac{3}{8}$
12 months	$29\frac{3}{8}$	$21\frac{1}{2}$
15 months	$30\frac{3}{4}$	$23\frac{3}{8}$
18 months	$31\frac{3}{4}$	$24\frac{5}{8}$
24 months	$33\frac{3}{4}$	$27\frac{1}{8}$

Girls weigh slightly less than boys and measure less in length.

Chest circumference at birth, 13.5 inches.

Head circumference at birth, 13.5 inches.

Chest circumference at one year, 18 inches.

The teeth are cut in groups—a group of teeth, an interval of time, and then another group. When a baby is a year old, it should have six teeth, although there are babies who have twelve. All the teeth should be cut by the time the child is two, or two and a half years old. The teeth may come through almost unnoticed, or they may cause serious disturbances, which make the child so nervous that it can not sleep or digest its food. With the cutting of each tooth, healthy babies occasionally have a rise in temperature from severe gastric and intestinal disturbances.

Heredity plays an important part in dentition. In some families the teeth come early and in others late; in some, the teeth come with difficulty, and in others without trouble. Some families show regular teeth, and others irregular ones. Rarely does the breast-fed baby have as much trouble as the one who is fed from the bottle.

The habit of rubbing the gums when a child is cutting a tooth is not good in all cases. However, if a tooth is just about ready to come through, there is no harm in resorting to this method of hastening it—remembering, however, that the finger must be thoroughly cleansed first. Then if the finger be dipped in ice water and rubbed over the swollen gum it gives the baby instant relief. Rubbing the gum with a small piece of ice wrapped in a clean piece of linen will often relieve irritation. The gums are not lanced so frequently as they were formerly; now they are lanced only in extreme cases.

There are twenty teeth in the first set, and normally, they appear in the following order:

	Months
1. Two lower central incisors.....	5 to 9
2. Four upper incisors.....	8 to 12
3. Two lower lateral incisors.....	12 to 18
4. Four front double teeth.....	12 to 18
5. Four canine—	
Two lower or stomach teeth....	18 to 24
Two upper eye teeth.....	18 to 24
6. Four second molars.....	28 to 34

When the teeth come they should be thoroughly rubbed every morning with a cloth moistened with a boric acid solution, or a solution of bicarbonate of soda. A soft brush may be used when the milk teeth are all in. When solid food is given, wax silk floss should be drawn between the teeth after each meal but with care not to cut the gum. Decay can be prevented if strict attention is given to the care of the teeth. They should be examined by the dentist as early as the age of two years and at frequent intervals after. The prevalent notion that decay of the first teeth is harmless is not justified by the facts. Disease of the milk teeth may be the cause of toothache, impaired digestion, and deformity of the permanent teeth.

During the ninth and tenth months, the child usually will attempt to bear its weight upon its feet, and can stand with assistance at eleven or twelve months. At some time from the thirteenth to the fifteenth month it is usually able to walk alone. Under no circumstances should it be urged to stand

or walk, and none of the contrivances for teaching babies to walk should be used. When the time comes and the muscles are strong enough, it will walk.

At the end of the first year, the baby begins to say papa and mamma. Other words it gradually picks up, and toward the second year it begins to put words together that make sentences of two or three words. In learning to talk it learns names of objects first, then words of action and descriptive words; personal pronouns come last. Undue urging of the child to talk, in other words, trying to make it show off, should be discouraged.

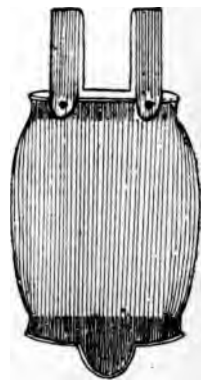
In occasional cases, the breasts of an infant of either sex, a few weeks after birth, may become swollen with an accumulation of milk, which is termed "witch's milk." Mothers are often alarmed when the swelling appears, but this swelling will subside if properly taken care of. The breasts must not be massaged. Camphorated oil should be carefully rubbed over the swollen parts, and they should be padded lightly with cot-

ton held in place by a smooth binder. This dressing is not to be disturbed for four or five days, when the swelling will be found to have entirely disappeared. Care should be taken in handling the baby not to bruise the tender breasts.

CHAPTER VII

CARE OF THE BABY

DRESSING THE BABY: In a baby's outfit the band is the most important garment. It should be at first simply a strip of soft flannel, and the edges should be pinked, as hemming and feather-stitching press into the tender flesh. Later, the all wool, or silk and wool barrel-shaped band may be put on. This last-named garment has shoulder straps and tabs over the chest and abdomen. Sometimes the straps are made adjustable in order that they may be altered as the baby grows or the band shrinks. These bands must be worn until the child is through teething. If the weather is warm,



Barrel-shaped
band.

and because of it the child is uncomfortable, it is better to remove the shirt than the band, as the shape of the band protects the chest and abdomen better than the shirt and, besides, leaves the neck and arms free. Bands are made in sizes to fit infants and children up to four years.

The shirts should be opened down the



Cotton stockinette shaped diaper.

front, and made with loose sleeves so that they will not bind. They may be either light weight all wool, silk and wool, or, if an all wool band is used, all silk. It is desirable to get the second size in the shirts, as the first size is outgrown in a short time.

The diaper should be made of soft absorbent material, such as cotton or linen birdseye, since the oftener these fabrics are

washed, the softer they become. The cotton stockinette-shaped diaper is excellent as it fits snugly at the waist, and is large and baggy at the seat. Since it is made of a fabric that is elastic and yielding, it absorbs easily, is easily washed and dries rapidly.

For the first three weeks the baby should be dressed in diaper, band, shirt and bag. Dressing the baby this way eliminates a lot of unnecessary handling while the baby is being dressed, and also must conduce to its comfort.

The flannel skirts on a cambric waist which pins in the back should be made entirely of flannel, either in the princess or reform style, opening on the shoulder, with neck and armholes neatly bound. The former is recommended for summer babies, and the latter for winter babies, except when the babies are kept in unusually warm rooms.

The baby's feet must be kept warm at all times. In winter use cashmere stockings long enough to pin to the diaper, and,

if no pinning blanket is used, a pair of knitted bootees over the stockings. In summer use light cashmere or silk stockings, or knitted bootees without stockings.

White skirts should always be made on waists which open at the back. The material may be of soft finish nainsook or mull which may be hand or machine made. Where the dresses are of sheer material, a white skirt may be added. In this case slip the flannel skirt into the white one, and then both into the little slip or dress, draw the three garments on from the feet up, and with one turning of the baby all three are easily adjusted.

For the slips and dresses use very soft nainsook and Persian lawn. Choose the simplest patterns for the dresses, such as the bishop, or one that has a yoke formed of tucks and feather-stitching. Avoid ruffles and yokes. The length of the garment from the neck down should be about thirty inches, and the petticoats must conform to this length. The slips and dresses

are closed at the back with small flat buttons, and with ribbon or bodkin tape.

In a cool room or in the morning before the bath, wrappers of flannelette, flannel, or cashmere may be put on. These are



better than the shoulder blankets or shawls, as the sleeves protect the arms, while the shawls, being loose, are likely to make uncomfortable folds. Tufted quilts of cheesecloth, nuns-veiling or silk, as well as cashmere or zephyr sacques, to use when a heavier wrap is required, are convenient articles for the nursery.

At night use the band, shirt and diaper, and a long loose gown made either of light twilled flannel or of cotton stockinette. The latter is the better, and can be had in sizes up to two years. It is absorbent, easy to wash, does not shrink, and as it is made

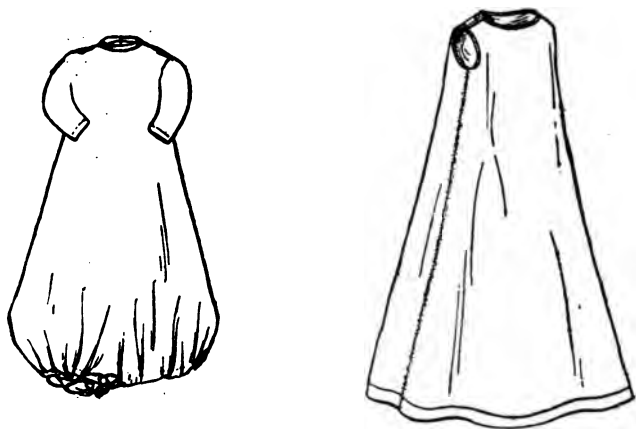


with a draw string through the hem, can be closed like a bag.

The time for changing long clothes for short ones depends entirely on the season. In summer it may be done when the child

is three or four months old, and in winter at the age of five or six months.

After the change into short clothes, the band, shirt and diaper remain the same in quality and often in size; the flannel skirt and the white skirt are each on a cambric



waist in order that the weight may hang from the shoulder. If the diaper slips down as the baby becomes more active, a diaper waist which holds the diaper in place without constricting the body is advisable. The same kind of nightgown is used at this period as in earlier infancy.

Stockings are worn now and also soft kid moccasins or paper-soled shoes. The selection of foot-wear requires great care. As babies begin to walk they need more



support and foundation for their feet and ankles than the moccasins give, and the paper-soled shoes or moccasins should be replaced by shoes with

soft leather soles as soon as attempts at walking are begun.

At the age of about a year and a half, a light waist is put on over the shirt and band, and on this are buttoned the little drawers and skirts. The drawers should be deep through the seat and short on the side, the seamless drawers being preferable. For summer they are made of soft cambric or nainsook; for winter soft knit cotton and wool. Ankle length drawers can be worn under the white ones. Hose supporters are now used, and as most waists have tabs with eyelets on each side, the pin of the hose supporter is put through these. Both flan-

nel and white skirts are on bands and the supporters button on the upper row of buttons on the waist.

For night wear, night drawers with feet are used, since they permit freedom of motion and protect the child, should the covering become displaced. (Note also bed clothes fasteners.)

Play suits and creeping aprons, in sizes from six months to six years, can be purchased. They are

made of blue or checked gingham, and buttoned the full length of the back. This garment protects the underwear and allows the child plenty of freedom.



Diaper waist supporter.

**THE BABY'S OUTFIT: An average outfit
for the baby contains the following articles:**

- 6 flannel bands, edges pinked, 5 inches wide, 16 inches long
- 4 knit bands with shoulder strap, silk and wool, first size
- 4 silk or silk and wool shirts, first size
- 4 flannel petticoats—Gertrude pattern
- 4 nightgowns
- 12 plain white slips
- 6 dozen diapers—cotton birdseye, 24 inches square for first size
- 4 cheesecloth or silkoline gUILTS, $1 \times 1\frac{1}{4}$ yards square, lined with lamb's wool
- 6 cotton sheets
- 2 small hair pillows
- 1 hair mattress
- 4 quilted mattress covers
- 2 bath aprons
- 4 pillow slips
- wrappers, sacques, stockings, bootees, bibs, caps, coats, mittens, veil, etc.
- 1 spool coarse linen thread

TOILET ACCESSORIES

- 1 toilet basket, safety pins, small, medium and large
- 6 towels
- 6 wash cloths
- 1 soft sponge
- 1 brush, soft bristles
- soap
- 1 comb
- 1 soap box
- 1 talcum box
- 1 powder puff

NURSERY COMFORTS: Safety straps for carriages, go-carts, or high chairs made of leather are handy to have and easy to adjust. A traveling basket that may be used



at home or for traveling is a convenient article. It resembles a lunch basket, holds a granite chamber, and is easy to carry. The toilet seat in the basket may be used

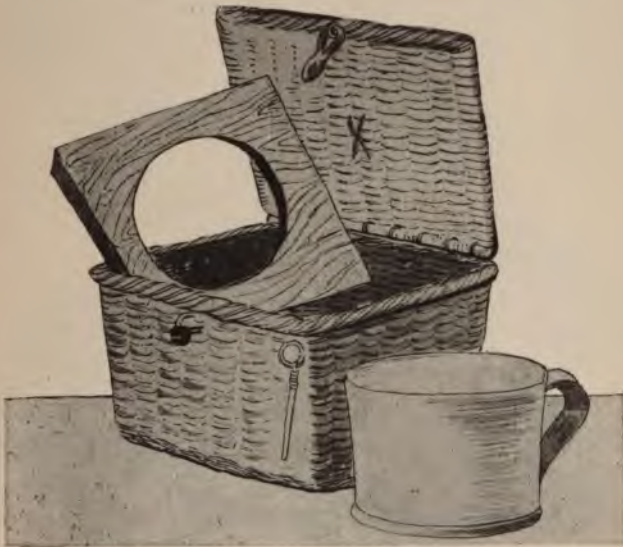
on any seat. Of the many folding bath tubs, the best are made with an oak frame, 30 inches long, 22 inches high, 17 inches wide. The tub itself is of heavy duck, rub-



ber-coated, flexible, and with an outlet at the bottom for emptying after use. At the end of the tub is a pocket for the sponge, etc.

The folding dressing board and bath tub

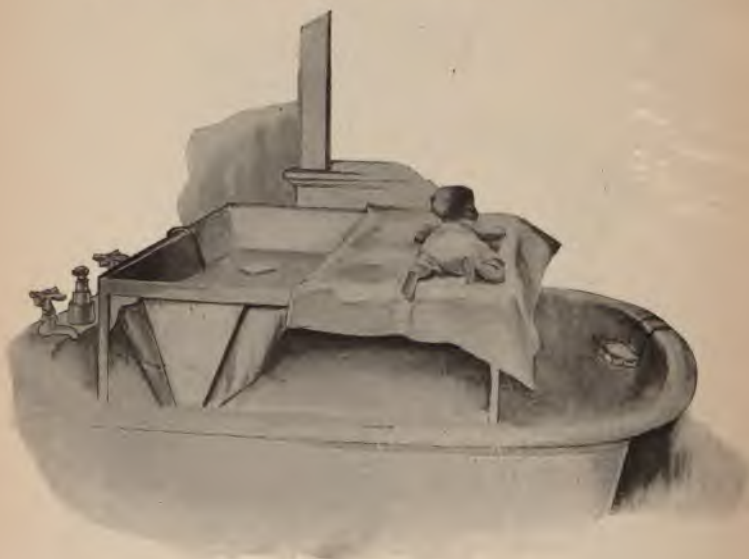
which is made to fit any large bath tub is shown in the illustration. The Sanitable tub is the most perfect article for bathing the baby that the writer has seen. The water can be drawn into the tub through a



hose and after use it can be folded and put away until wanted again. After soaping the baby well upon the board or table it is rinsed in the bath and then dried upon the board which is covered with a Turkish

towel. This is a far more satisfactory way and much easier for the mother than bathing in a small tub or bowl and drying the baby on the lap.

Among the other nursery comforts may

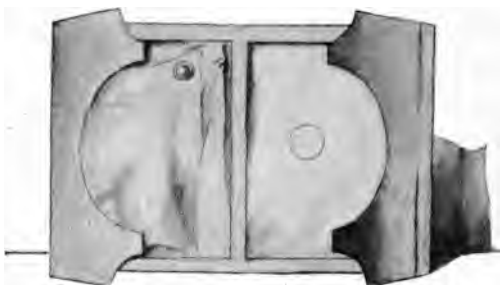


Attachable bath tub.

be suggested a bed-clothes fastener, a small hot-water bag, baby record books and scales, drying frames, etc.

As the baby's clothing takes up a large

amount of room, the author recommends the cabinet shown in the illustration. This cabinet is about three feet high, four feet long, and two feet deep, and has a number of drawers. Around the four sides of the top is a temporary railing, the front of which may be dropped. Inside the railing



Attachable bath tub, folded.

is a hair mattress or pad about two inches thick. The object of this shelf is to have something on which to place the baby when necessary. During the day the infant is taken up many times to be changed, bathed, fed, etc., and the top of the cabinet makes a safe as well as a comfortable place upon which to lay it; and it is a more convenient place than the knee of the nurse. After a few months, the railing may be removed

and the cabinet make a nice piece of furniture. If the mother does not wish to buy a cabinet, a top may be fitted to a chest of drawers.

The hot-water bag is an indispensable article in the nursery, but great care must



Baby bath tub.

be taken in using it about the baby. It should never come in direct contact with the skin of the infant, and should not be hot. The skin of a baby is very sensitive, and burns easily, so before being used the bag should be tested as to temperature by plac-

ing it against the face of the nurse or mother.

Drying frames made of white wood with non-rustable hinges are indispensable nursery articles. The little woolen shirts and stockings are stretched on these frames, so that they will not shrink in drying.



Baby's cabinet.

THE BED: The best bed for the first few months is a wicker basket. At the bottom of the basket, place a soft hair mattress and cover it with a rubber sheet. Over this place a quilted mattress-pad. Supply half

a dozen sheets of soft muslin or linen, besides a pair of light, soft, wool double crib blankets, or tufted cheese-cloth or silk comforts.



When the baby is about six months of age, a child's bed should take the place of the basket. Care must be taken in selecting this bed. One should be chosen which

will be large enough for the entire period of childhood. The bed may be of brass, or of enameled iron, and should have sides that drop. The sides must be high and the rods so close together that it will be impossible



for the baby to get either its body or head between the bars. Serious accidents have happened by the baby's shoving its head between the bars.

The mattress should be thin and of hair,

and not of feathers or wool. Over the pad place a rubber sheet, and then a sheet doubled. In winter a quilt may be placed over the rubber sheet. A pillow may or may not be used; if it is, it should be thin and made of hair. The covering should be light in weight, and warm. The bed must be thoroughly aired daily by exposing every part of it to fresh air and sunlight.

It is a mistake to keep the child too warm in bed; if the baby perspires, there are too many covers.

REST AND SLEEP: After the first few days, the position in which the baby lies is of no consequence; some babies lie on their stomachs, some on their sides, and some with their hands over their heads.

For the first two years at least, children should be put to bed at six o'clock. During the second year, they should be undressed at a certain time every day, preferably after the morning bath, given a bottle of milk and put to bed. Usually this nap will last from two to three hours.

Children sleep later in the morning if

awakened about 10 p. m. and fed; at this time the napkin should be changed. A healthy child will immediately go to sleep again. Restless sleeping in babies is a sign that they are not well. Infants who are fed three or four times during the night frequently do not sleep well. Mothers sometimes sleep with their babies, and the result is that they nurse them so frequently that the baby's digestion is upset. Insufficient as well as too much clothing may cause restlessness. Sleepless babies are as much in need of a physician's care as if they were seriously ill.

At first the baby should sleep nine-tenths of the time, and though the directions are to waken and nurse it every three or four hours, the nurse often can not rouse it, and when she does, the child will sometimes fall asleep before the feeding is finished. Directly after each nursing, the child should be put back into the crib, and left there until the time comes to nurse again. As a rule, with clock-like regularity, the little thing will let its wants be known.

In lifting a child from the crib, the spine must be supported. To support the baby, grasp the clothing just below the feet with one hand, and slip the other under the shoulders and the head. Never attempt to lift it by the arms or hands.

THE BATH: Until the navel is healed, the infant should not be given a full bath. Wash the face, head and hands with warm water and soap, being careful not to get any soap into the eyes. (A wash cloth made of cotton stockinette is very useful in applying the soap. Flannel or diaper cloth may also be used. A fine quality of sponge readily removes the soap from the ears and other places.)

Rub the body gently with sweet oil or benzoated lard; rub off the excess of oil with a soft towel. If, however, the oil seems to irritate the skin as it may do in very warm weather, a sponge bath may be substituted. After the cord has separated and the navel healed, the child may be given a full bath. The temperature of the water for the full bath for the first month should be from 98



Proper way to hold baby.

to 100 degrees F.; after the first month and until the sixteenth month, gradually lower to 95 degrees, and from this time on to the end of the second year it should reach 90 degrees. A bath thermometer must regulate the temperature of the bath. After the bath, when the baby is two or three months old, a little cold water coming directly from the tap may be dashed over the head, chest and shoulders. This splash is not agreeable to all infants. Many infants cannot endure the cold spray, and become blue under it. In such cases the water will have to be tepid or quite warm. If for any reason the baby becomes blue from its bath, it must be given a vigorous rubbing and wrapped in warm blankets. The child will learn to love the bath, which is just as necessary for it as food and sleep.

For what we call a soap bath, first lather the baby with soap and water, then rinse the suds. Then shower the baby with water as cold as is agreeable. After this lay it upon the table, or board, or the lap, wrap it in a bath apron made of soft, heavy Turkish

toweling, and rub it perfectly dry. The bath apron is made of absorbent non-shrinkable, soft knit, cotton back material, heavily fleeced with soft nap on the side to be used. Special attention should be paid to the ears, palms, groins, and under the arms; and in girls, care should be taken not to injure the external genitals. Follow the bath by massage of the whole body, tapping lightly and spanking to bring the skin to a healthy glow. It is surprising how much of this beating and spanking babies may be taught to bear.

At a stated time every day, the bath should be given; the time chosen should be at least an hour after nursing. Because of the soothing effect of the bath, it should be given preferably just before feeding; after the feeding the infant will go to sleep immediately. Many mothers prefer to bathe the baby themselves. And unless the baby has an exceptionally experienced nurse, it is better that the mother should do so. She should do the bathing thoroughly, not forgetting that all the little folds in the arm-

pits, groins, and buttocks, must be cleansed. If soap and water are not sufficient to clean the baby, use a little alboline. For the heat rashes, stearate of zinc powder is better as a dusting powder than the usual perfumed powders which clog the pores of the skin. Boric acid powder in any form is liable to irritate the skin of the baby and should not be used. On warm days, at different times in the day, the baby must be left partly undressed. This should prevent the rash or, if the baby has it, aid in the cure of it.

As most soaps are irritating to the tender skin of a new-born baby, care should be taken to buy the best. Good Castile soap is the most satisfactory for this purpose.

CARE OF THE EYES: Great care must be taken of the baby's eyes for several weeks after birth. Every morning at the bath the lids should be washed with a clean, soft, linen cloth dipped in lukewarm boric acid solution. Then, by means of a medicine dropper, the eyes themselves should be irrigated with some of the same solution which has not become contaminated by putting

the linen cloth once used back into the water.

THE NOSE: The nostrils should be cleaned carefully by rubbing with a piece of absorbent cotton that has been dipped in a boric acid solution or liquid alboline. Wrap the cotton on the end of a toothpick.

THE BOWELS: The first few days the infant passes a tarry substance called meconium. This substance gradually changes from black to brown in color and later, as the child takes food, yellow streaks appear in the stool. By the end of the first week, the movements should be canary color, and the odor that of sour milk. The stool should not contain any mucous or undigested curds; foul-smelling, greenish or frothy stools mean intestinal indigestion. Two movements a day is about normal. If there are more than four, a physician should be called. The observing mother soon becomes familiar with normal character of the stools, and is able to notice variations and to describe them to her physician. It is surprising how soon the infant may form

the regular habit of emptying the bowels and bladder. It is not unusual to find a baby by the eighth week well trained in this respect. At a certain time each day remove the napkin and hold the child over a chamber. If the bowels do not move, give a small gluten suppository, or a little water in the rectum. This should bring the desired result.

If the baby's bowels move once a day of themselves, and if the passage is small and somewhat constipated, the mother need not be alarmed, that is, if the child is perfectly comfortable. For, as the food becomes stronger, the constipation corrects itself. But if the child persists in constipation, an injection of a tablespoonful of sweet oil may be given, or half a teaspoonful of glycerine in a tablespoonful of water. Sometimes a gluten suppository, infant's size, that may be obtained at the druggist's, is inserted into the rectum to help establish a regularity of the time of the movement, or a soap stick may be inserted for a few minutes.

A bulb syringe with a smooth, hard rub-

ber tip may be used for the injection, or a soft rubber catheter to which is attached a glass funnel. Not more than two ounces of fluid should be injected at a time. The tip of the syringe may be lubricated with oil or vaseline, and inserted by sight in order not to do injury.

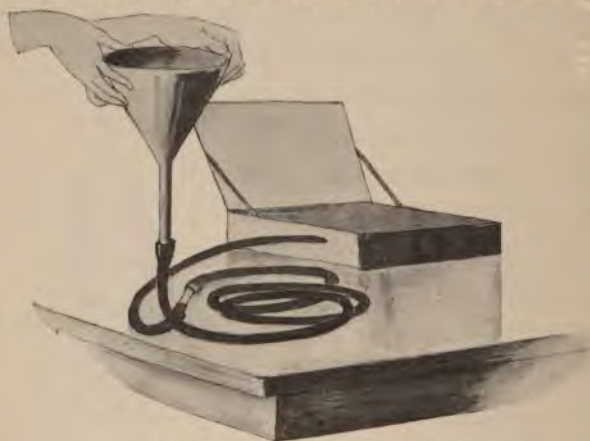
Massage of the abdomen will often correct the constipation. This should be done when the stomach is empty. Begin low down on the right side, just below the median line, and massage the abdomen carefully with the tips of the fingers in a rotary motion, slowly working up to the ribs, and then across the transverse colon to the other side, and down the left side to the groin. The time consumed in making this circuit should be about five minutes. Even in obstinate cases, this treatment gives surprisingly good results.



Baby syringe.

Often the bowel movement is irritating,

and because of the irritation, the anal region becomes red and inflamed. This irritation is generally corrected by improving the intestinal digestion. But, in the meantime, something must be done to relieve the inflammation. Water should not be used on these parts, but they should be cleansed with olive oil, and any excess of oil be re-



Rubber catheter with funnel.

moved by rubbing very gently with soft linen. A slight redness or chafing should be treated by drying the parts affected very gently and applying a small amount of stearate of zinc powder. Any serious ero-

sion or inflammation should be seen by a physician.

The redness may be due to infrequent changing of the soiled napkin or to using napkins which have been merely dried and not washed, or to napkins which have been improperly laundered.

Most infants are troubled more or less with colic. Usually the greatest sufferers from it are bottle-fed babies. Colic is a symptom of indigestion, but may come from other causes, such as constipation, or from cold feet and hands. A colicky baby upsets the household and disturbs the mother, who needs all the rest and sleep she can get. If colic is caused by constipation or acute indigestion, a dose of castor oil and a flushing of the bowel with a warm salt solution will relieve it. Milder cases often may be relieved by the baby's drinking a little warm water, or by taking a tablespoonful of warm peppermint water, or a tablespoonful of warm water in which a soda-mint tablet has been dissolved. A hot-water bag or hot flannel applied to the

abdomen will sometimes answer the purpose.

The feet, hands, and body of a colicky baby should be kept warm. If repeated attacks of colic are due to constipation, the mother can regulate the infant's bowels by taking a laxative herself every day. Often the trouble is due to the mother's indiscretions in eating, and to her not keeping regular hours. If colics continue and the baby shows signs of indigestion, a physician must be consulted. Don't give paregoric, or hot brandy or whisky, as some frequently do. "Soothing syrups" are not necessary, and are injurious; it is said that many or all of them contain opiates. Whenever the child becomes so restless that it must be given something to quiet it, the physician should be consulted. While many articles of food which are eaten by the mother do not disturb her, they frequently disturb the nursing baby. It is a popular opinion that tomatoes should not be eaten by a mother who is nursing a child, but while in some cases they should be avoided, there are

cases in which they may be taken comfortably. Sometimes when they cause disturbances, the trouble comes from the dressing on the tomato, and not from the tomato itself. Lettuce and strawberries are also considered injudicious to the nursing baby. Therefore, mothers will have to determine by trial what they can take. Should the baby have colic that can be traced directly to some article of food, then the mother must eliminate that article from her diet.

NAPKINS: Soiled napkins should be removed from the nursery immediately, and put into a receptacle with a tight cover, and washed as soon as possible. They should not be allowed to dry unwashed, but should receive a rough washing at the earliest convenience, and be put to soak afterward in clear water. On final washing they should be rubbed in hot suds and boiled for at least fifteen minutes. After this process, the napkins should be thoroughly rinsed and dried. Under no circumstances should a napkin be dried and used again without washing, or put on the child when damp.

KIDNEYS: After the birth of a baby for it may not the first day or two pass much urine, but when it begins to take milk, the urine becomes abundant. The napkins must be changed as often as soiled. Strict attention to this matter will often save much trouble for the mother and irritation to the child. Erosions and inflamed skin about the buttocks are often the results of neglecting to change wet napkins.

During the second year, a child who has been put to bed at six o'clock should be taken up between ten and eleven to urinate.

During the first three years the child may be expected to wet the bed; but after that, such a habit causes concern. Physicians are often consulted by mothers about this habit in children between the ages of five and twelve. An examination will prove if there is anything wrong.

Do not punish the child for wetting the bed, for if the habit comes from indifference, the child may soon be made ashamed of it. Give such a child plenty of fluid during the day, but none after 4 p. m. At

11 p. m. the child should be taken up and allowed to urinate. Should the condition show no improvement after the child is three years of age, a physician should be consulted.

CIRCUMCISION: This operation is not necessary in all cases. A few years ago it was the practice to circumcise nearly every male child, but the practice has given place to conservatism in this respect. When the foreskin is short and easily retracted, there can be no reason for the operation physically, although there may be one religiously. The physician will instruct the mother how to take care of the foreskin, as this organ must be kept clean. Later, the child should be taught how to take care of himself.

EXERCISE: Besides the massage which is given after the daily bath, the baby should be allowed to exercise by kicking, screaming, waving its arms, etc. Therefore, to avoid restricting its freedom its clothes should not be tight. At some time in the day, the infant should be undressed and allowed free use of its limbs as it lies upon

the bed in a warm room. Strange as it may seem, babies have nerves just the same as grown people, so the less the infant is excited the better. It is a very well-known fact that babies of the poorer classes are less nervous than those of the rich. This is partly due to the fact that the mothers are too busy with their work to excite the child by continually entertaining and exhibiting it. If left alone, a child amuses itself. To toss a baby continually, to show it new things, or to make noises to amuse it, only excites it. It is not play but quiet that the child needs, especially if it has inherited a nervous temperament.

CRYING: Babies will cry and the cause can not always be found out. If a baby cries one hour every day, it may be considered normal, for crying is necessary exercise.

When the baby cries from pain, the character of its cry is sharp and piercing, and it shows the discomfort by drawing up its legs. The child may fall asleep when exhausted, but will awaken often with a

scream. The cry of indulgence is the one with which we are the most familiar; the infant cries to be rocked and carried, and for other things habit has made it want. If it stops crying when the wish is gratified, and cries again when the object of its desire is taken away, you may know that it cries for indulgence. The treatment of such a case is to let the child have its cry out. Hours of crying may be required to train the baby, but it finally will be conquered. A second discipline may be necessary, but a third one is rarely needed.

The cry of hunger is a worrying, fretful cry, and with it the baby usually vigorously sucks its fists. When the hunger has been satisfied, it stops crying.

The cry of indigestion is often mistaken for hunger, but while this crying may cease when the baby is given food, it recommences with increased vigor after the feeding. Through fear of causing a rupture, many mothers spoil their babies by taking them up and in other ways indulging them. When the baby cries, see that the clothing

is warm, that the napkin is not wet, and that the feet and hands are not cold; then, if there are no evidences of physical discomfort, leave the baby alone.

It is surprising how soon some young mothers detect the difference in these cries. It is fortunate when the mother can discriminate between them, for then she can determine what the child needs.

THE NURSERY: As three quarters of the first year of the average child's life is spent in the nursery, it is necessary that this room should have sunlight, fresh air and quiet. Therefore, a room with these advantages, preferably one having a southern or eastern exposure, should be selected. The air should be kept as pure as possible, and there should be no plumbing in the room. There should be dark shades at the windows, but no other hangings that can not be washed. With the exception of rugs, the floor should be bare. Twice a day the room should be thoroughly aired, the baby being removed in the meantime. The temperature of the nursery should be about 68

degrees F. The child who is kept in a room that is too hot perspires freely and takes cold more easily.

For accurately gauging the temperature of a room, it is necessary that a thermometer be hung close to the bed of the baby, as the different parts of the room vary in temperature.

In order to overcome excessive dryness of the air of a room in the winter, it is a good idea to place a shallow receptacle filled with water in the nursery.

GOING OUT: The time when the baby shall first go out of doors depends upon many things. If the weather be warm, a healthy infant may be taken out at the end of the second week, but it must be at least a month old before it may go out in winter.

Fresh air is absolutely necessary for the health of the baby. It purifies the blood, stimulates the appetite, aids digestion, and encourages the growth of the child. However, in order to give the child air, it is not necessary to take it out in a perambulator. But if there is any reason why the baby

must have its airing away from the house, it is better to take the carriage to a quiet spot and let it stand than to jolt the baby along the dirty streets. There was a time when a carriage was considered a necessary article of the baby's outfit, but not now. A basket is found better to keep the baby in; it is roomy, and more comfortable than a carriage, is easy to move about, and takes up less space. If the house has a sun parlor or sleeping porch, place the basket in one of these rooms and do not disturb the baby except to feed and change it. If the house has no such room, air one of the bed rooms and let the baby take its outing there.

CARRIAGE: The baby carriage must be selected with reference to the child's comfort. It should be roomy, the springs responsive, and the top should be one that protects the baby from the sun and drafts.

A strap for the carriage which completely encircles the waist of the baby and fastens on the other side of the carriage secures the infant's safety more than the straight strap.

NURSERY MAID: The selection of a nursery maid is often a difficult problem; there are so many qualifications necessary that it seems almost impossible to obtain the proper person. She should be intelligent, kind, clean, healthy, and experienced. There is no economy in selecting a maid who does not combine these qualities. If, however, one is compelled to take a maid less desirable, it is the mother's duty to teach her how to take care of the baby and of herself. For instance, insist that she be neat, that her teeth be brushed three times a day, that she take a daily bath, that she never put her finger in the baby's mouth, and that she understand why she should not taste the baby's food by putting the rubber nipple into her own mouth. Have her wear a uniform dress, which can be changed frequently and washed. If obliged to keep clean and neat, the nursery maid is prompted to do better work.

In a girl who is with the baby day and night, health is a necessity. A girl with poor teeth, for instance, can not have good

health. She suffers from indigestion, and if her breath is bad, she is not the proper person to take care of a child. When selecting a nursery maid, send her to your physician for a thorough examination, for she may have an incipient tuberculosis, a bad heart, or something which you might not detect, which would unfit her for the care of the child.

If, however, a paragon is finally procured who is willing and able to devote herself exclusively to the baby, the mother should not ignore her own obligations to the child by giving over her own responsibility. It is unfortunate that we may see on our walks children given over to the care of incapable and in other ways undesirable women who have been chosen by indifferent mothers.

When the baby is able to crawl or sit up, a nursery fence is very helpful to the mother when the baby must be left alone. It can be set up in any room in the house with little trouble, and the baby placed inside. This fence may be purchased or one can be



Nursery fence.

made. As it folds up, it occupies small space when not in use.

The purpose of the fence is to keep the baby in a small enclosure where it can not harm itself or injure articles in the room, and when the baby begins to sit up, the mother will still find the fence very convenient. She can place the baby in the enclosure upon a rug with whatever toys are necessary. A baby left to play by itself in this way is safe and causes little anxiety to the mother.

PLAYTHINGS: Toys amuse a baby temporarily, but it soon tires of one toy and wants another, and the more supplied the more it demands. It is unnecessary for the first few months to amuse an infant by giving it toys, for the baby will often amuse itself by playing with its own hands and feet, and by watching the mother and nurse moving about the room. When the baby begins to creep and walk, the toys are useful, but require care in the selection.

The baby naturally puts everything in its mouth, therefore articles must be chosen

which are not rough and which can be washed. Give the baby no painted toys, or toys with sharp points, or small articles which it might swallow, such as marbles, buttons, safety pins, etc. After the age of two years, all toys should be selected not only for amusement, but for their educational value. A few toys well selected give more pleasure to the child than many ill chosen ones. Beware of toys sent in by neighbors; if they come from a home where there recently has been any contagious disease, they should not be used.

SUCKING HABITS: On no account should the baby be given a pacifier or rubber nipple to suck. The habit of sucking a rubber nipple is soon formed, and is an unclean one. It interferes with the digestion and often causes infection of the mouth.

Sucking the thumb or finger is another habit which must be broken early, for pressure of the thumb on the bones of the mouth frequently disfigure the mouth; besides it does not permit the thumb and finger to develop. So it is unwise to encourage a

habit that causes shame to the mother and embarrassment to the child. The habit may be broken by tying the hands down and by putting on mittens. Dirt eating is another habit, and usually is a sign that the child is not well, and a physician should be called.

BOW-LEGS: Young babies are usually what is termed bow-legged. However, their little limbs straighten out as they become older, and what seems a deformity disappears. Bow-legs that come about the time a child begins to walk are not so much due to the weight of the child's body on them as to malnutrition. It is surprising to see the beneficial effect of proper food on such children. Under correct nutrition the legs straighten.

KISSING: Babies should not be kissed, especially upon the mouth. By this practice of kissing, many children have contracted infections, such as tuberculosis, diphtheria, and numerous other diseases. If it is necessary to kiss a child, kiss it on

the forehead or cheek—there is danger even in this.

RELATION TO THE PHYSICIAN: The mother should obey implicitly instructions given her by the physician, and before she changes any treatment should consult him.

Teach the baby early not to be afraid of the physician. Such expressions as “the doctor won’t hurt you,” or “if you don’t stop, we’ll send for the doctor,” make the baby afraid of him.

The child should be taught as soon as possible to open its mouth and put out its tongue. In times of sickness, a child who will do these things has a great advantage over one who will not.

CHAPTER VIII

THE BABY'S FOOD

THE HYGIENE OF NURSING: Nature's food for a new-born child is mother's milk, and therefore mother's milk is recognized by physicians as the perfect food for the child. When a healthy mother says she will not nurse her baby, even if she has plenty of milk, physicians, realizing the importance of mother's milk, are so disgusted with such a woman that they may refuse to take the case. However, such cases are rare, because most women know the value of mother's milk, and look forward with pleasure to nursing their babies.

The nursing baby generally makes better progress in weight, sleeps better, has less colic and cuts its teeth with much less disturbance than the one fed upon the bottle. Nursing has a distinctly beneficial ef-

fect upon the mother, also. It is a well-known fact that with the nursing mother involution of the uterus, that is, the return of the womb to its normal condition, is much more rapid than in one who does not nurse her baby.

Many mothers fear that their babies will starve if something is not given them to eat immediately after birth. This idea is erroneous. As a matter of fact it is not necessary for the baby to have artificial food during the first forty-eight to sixty hours, the time required to establish the milk supply.

Sometimes it seems almost impossible to make the child take the breast, but every expedient must be tried. It may be necessary to start the milk with a breast pump, and if the milk does not flow readily, hot compresses put over the breast for a few minutes will usually help the flow.

Weighing the baby is one way of knowing if the baby is doing well. If it gains normally, the quantity and quality of the food are right. If it loses, either the

amount is insufficient or the food proportions are wrong. Another indicator of the child's condition is the stools. If they are normal in color, quantity and substance, the chances are that the baby is well.

Between nursings, give the baby some water, and be careful that it is not too warm or too cold. The water should be boiled or distilled unless it is pure spring water. The bottle should be held by the nurse until the infant is through feeding. From two to three ounces of water in the twenty-four hours may be given a very young baby.

Very often the baby is fretful at the breast because of its position (the way it is held). Care must be taken that the child is made comfortable, and that the nipple does not enter the mouth at an angle. If the mother nurses the child in bed, she should lie well over on her side with one arm up and the hand back of her head, and hold the breast with her other hand. This may seem a trivial matter, but some children will not take the breast in an uncomfortable posi-



Position for nursing.

tion, or if they do, they fret continually through the nursing. They also worry when the nipple is in the mouth at an angle, for if the nipple doesn't lie straight, it slows the flow of milk or stops it entirely, and the child can not satisfy itself easily. And if the mother's nipple is imperfect and the baby unable to grasp it, the baby must be fed with an artificial nipple or nipple shield. When the mother's nipple becomes sore or cracked, the infant may be fed through a nipple shield.

Sore nipples are often caused by too frequent or too long nursing. As soon as the baby is taken from the breast, the nipple should be washed with boric acid solution and thoroughly dried with absorbent cotton. Do not allow any of the mother's wearing apparel to come in contact with the nipples; keep a piece of soft linen over them. The physician should be notified whenever abrasions appear on the nipples, because they often result seriously. The artificial nipple should be boiled and kept in a solution of boric acid.



Position when nursing in bed.

If the infant vomits immediately or soon after nursing, it may indicate that it has taken too much food. To lessen the amount of food the baby has been taking, shorten the length of the nursing time, or lengthen the time between the feedings. The milk should not be taken too fast; to prevent this,



Artificial nipples.

the feeding should be interrupted frequently. Tossing the baby just after nursing, and constricting it by tight clothing, will sometimes cause vomiting, but if the vomiting continues, beginning some time after the nursing, it shows that the child has indigestion and a

physician should be consulted.

A baby should be nursed fifteen or twenty minutes, although there are babies who are difficult to keep awake while they nurse, and sometimes can not be aroused enough to take the nipple—in such cases let the baby wait till the next feeding hour. However, if it should wake before the next feeding,

give it a little warm water to quiet it. Usually this state of things does not last long—soon the baby is ready and waiting for nursing time.

The baby must not be permitted to sleep at the breast or to stay with the mother after nursing. When allowed to remain, it forms a habit that is bad for it and the mother. When the baby is always in its mother's arms, the mother becomes a slave; for this reason, even if the baby enjoys nursing when it wishes, and likes the contact of its mother's body, it must not be permitted this habit. Besides there is a real danger—the mother may fall into a heavy sleep, roll on the baby and smother it to death.

During the first few weeks, one breast at each nursing furnishes plenty of milk, so it is better not to put the child to both breasts at one feeding. Write down on a piece of paper in the morning the nursing hours and the breast to be nursed, as:

A. M.		P. M.		A. M.	
Left	Right	Left	Right	Left	Right
6	10	2	6	10	2

Usually the nursing mother does not menstruate for the first three months after her delivery, but if she should menstruate it does not necessarily follow that the baby must be weaned. There is an old idea that when menstruation begins the baby should be weaned. This is a mistaken idea. Even if the mother does menstruate, the fact does not usually alter the quality of the milk, although it may affect the quantity. Nor does it mean that the baby must be weaned. If the amount of milk is reduced, an artificial feeding may be added, if necessary. However, there are cases in which the baby becomes disturbed when the mother menstruates. In such cases, of course, the child is taken off the breast for the time; the breasts are pumped and the baby put back again after menstruation has ceased.

Should the mother become pregnant while she is nursing, she must discontinue the breast feedings.

The table furnished for the hours of feeding by day is subject to modification. The baby should be wakened for its food; other-

wise there will be an irregularity in the feeding time which will disturb the digestion. The 2 a. m. nursing can often be omitted; if the baby wakens, however, at this hour every night with a cry of hunger, it is better to feed it. Generally, a little water is better for the child.

WEANING: The time for weaning varies. It is generally believed, undoubtedly with good reason, that mother's milk is not a sufficient diet for the baby after the ninth or tenth month. If the mother is strong and the child growing, it shows that nursing agrees with both of them; in such cases, the nursing may be continued with good results until the end of the tenth month. However, if there is a great drain on the mother at this time, and she shows the ill effects of the nursing, weaning must take place earlier.

If the baby stops growing and seems to crave more food, and an examination of the milk shows that its quality is poor, the physician may decide to combine artificial food with the mother's milk. Under no cir-

cumstances, however, should the baby's food be changed without a physician's advice. The mother must not take it upon herself to modify the milk, or to substitute artificial food for the baby. Babies improperly fed under the mother's directions are apt to develop intestinal disturbances.

Weaning a baby in very hot weather is, of course, inadvisable. If possible, the process should be deferred until early autumn.

Permitting the baby in its first two years to taste the food at the table is a dangerous thing. It is better for the child not to be brought to the dining room at meal time, although the father, who perhaps does not get an opportunity to see the baby at any other time, must, of course, be considered. If he must have the baby at the table, at least he should not give it tastes of table food.

When the baby is weaned, the best food to put it on is cow's milk, modified to correspond with the mother's milk. The writer does not think it advisable to give formulas for baby feeding. The science of baby feed-

ing is complicated, and belongs to a physician who should be consulted. If a child is weaned slowly, there is usually no trouble with the mother's breast, but when the child has to be quickly weaned, the breasts become engorged. In such instances, as little liquid as possible should be taken by the mother, her bowels should be kept open, and a tight breast binder put on by a physician or nurse.

The saliva and the gastric juices are insufficiently developed in young infants. At first there is only saliva enough to keep the mouth moist; consequently the baby can not take starchy foods during the first few months—to this we refer in another place. However, by the third or fourth month, the saliva has increased, when the baby commences to drool; but this drooling is not necessarily a sign of cutting teeth.

When the mother finds she is unable to nurse her baby, and the use of modified milk is not thought advisable, the wet nurse is the alternative. If she is carefully selected, she will prove the best possible ma-

ternal substitute. She must be examined by a physician, and not taken on the recommendation of friends. She must be kept in perfect health by living upon plain, wholesome food, by keeping regular hours, and by doing a certain amount of light housework, and having plenty of outdoor exercise. So necessary to the successful feeding of a child is a wet nurse's health, that she should live under a prescribed regimen.

ARTIFICIAL FEEDING: It often becomes necessary to feed the baby upon other than breast milk. This is called artificial feeding, and frequently is a trying process both for the mother and for the physician. The best artificial food is cows' milk, modified in such a way that it will, as nearly as possible, resemble mother's milk in all its constituents.

Many babies seem to thrive and grow fat on the much-advertised baby foods, but the mother should never take the responsibility of giving foods recommended by advertiser and neighbors; for a food which may agree with one baby may not agree with another.

Besides fat is not always a sign that a baby is healthy and will remain so. Even though prepared food firms may show pictures of large fat babies, these pictures do not signify that all babies taking this food are healthy, or that they will be as strong through childhood as other children who have been fed in a more scientific way.

As the code of medical ethics does not permit a physician to make a clinical report of his cases to the world, he has little opportunity to prove that his babies fed in a scientific way upon modified cows' milk are healthier, stronger, and more perfect than the babies we see in food pictures. But while it is not the purpose of this book to instruct the mother in artificial feeding, a few facts about cows' milk, and the care the mother should give in preparing it, may be useful.

Cows' milk in its raw state can not be fed to very young infants, because, while it contains all of the elements of the mother's milk, it does not contain them in the proper proportions for human infants. Changing

the proportions of the ingredients of the milk so that it will make proper food for the baby is called modifying cows' milk. Cows' milk has less sugar and more proteids (curds) than mother's milk, and its reaction is acid, while mother's milk is alkaline.

Milk is made up of solids and water. The solids consist of the fats, sugar, proteids, and salts, and are about 13 per cent of the total amount. Water constitutes 85 per cent. The total percentage of solids is about the same in mother's milk as in cows' milk. The proportion of the different ingredients is as follows:

Cows' MILK		MOTHER'S MILK	
	Per Cent.		Per Cent.
Fats	3.75	Fats	4.13
Lactose (milk sugar)	4.42	Lactose	7.00
Proteids	3.76	Proteids	2.00
Salts	0.68	Salts	0.20
	<hr/>		<hr/>
	12.61		13.33

If the task was simply to modify cows' milk so that the proportions would be the same as the mother's milk, there would be very little trouble, but there are other

factors to be considered, the most important of which are the purity and the temperature of the milk. Mother's milk is absolutely sterile, that is, free from germs, and is so taken into the baby's mouth. It is of an even and proper temperature also. Cows' milk is not sterile after it passes from the udder. It contains bacteria which multiply rapidly. Besides, when cattle are diseased, they generally pass the disease to the milk. Furthermore, the artificial food does not keep an even temperature during the feeding. If it be necessary to feed the baby from cows' milk, select milk from a mixed herd of cows rather than from one cow. Herd milk varies little from day to day, but the milk from a single cow is liable to vary.

Parents who take their bottle babies to the country to give them pure air, before they select a place, should investigate the milk and water supply. They should visit the nearby dairy from which the milk for the child comes, ascertain when the cows were last examined for tuberculosis, ex-

amine the milk cans and milk receptacles, be present at a milking, and learn how careful or careless the milker is regarding cleanliness. They should notice whether the cows are well taken care of, and whether the milker washes his hands before milking, and the udder of the cow as well. Parents should know what sort of milk is fed their babies, and they should demand that the dairy has a good standard of cleanliness. If they make this demand, it will aid the physician in his effort to raise the standard of milk. Insistence upon this would soon result in each dairy striving to outdo the others in furnishing a supply of pure milk.

Generally the milk delivered at the house does not keep long because of the bacteria which is collected in the milk in the process of milking or in the transportation receptacles. Milk thus contaminated easily becomes sour; it may contain the germs of typhoid fever, scarlet fever, cholera, tuberculosis, etc. For this reason, unless milk is heated to a certain point, it is unwise to

feed it to the infant. The process of heating is called sterilization or pasteurization. Whether you have pasteurization or sterilization depends upon the temperature to which the milk is carried.

In order to sterilize milk it must be brought to the boiling point of 212 degrees F., and then kept at this temperature for an hour. This process destroys all germs, but renders the milk very indigestible, and not the best food for infants. Therefore, the aim should be to obtain fresh and pure milk which will not require sterilizing or pasteurizing. Such milk is now obtainable in most large cities, and much credit should be given to the several concerns which are faithfully attempting to provide such milk.

Various forms of sterilizers are on the market. Perhaps the simplest and most popular is the Arnold sterilizer; directions come with it, so that it is easy to operate.

When lime water is to be added to the milk it must be added at the time of feeding, after the milk has been pasteurized.

To pasteurize milk, it should be heated

to 155 to 167 degrees F. for thirty minutes. This preserves the milk, and delays fermentation without interfering with its digestibility or altering the taste. This method at present is the most popular. Its object is to destroy germs by a lower temperature process than the process of ster-



Sterilizing outfit.

ilization requires. Practically, it may be done without the sterilizer. Place all the bottles that are to be used for one day in a pail that has a cover, first putting on the bottom of the pail a thick towel; now pour cold water into the pail up to the neck of the bottles, which previously have been corked with cotton, or with close rubber

caps. Bring the water quickly to the boiling point, and immediately remove the pail from the fire. Set it in a cool place and when the water is cool, put the bottles upon the ice. The Arnold sterilizer may also be used for pasteurizing milk. Leave off the hood,



Nursery bottles.

partly remove the lid, place the bottles, and pour in the water as before, bringing the temperature up to 155 to 167 degrees F., and hold it there for forty-five minutes.

Milk which is to be given to a baby should

not be put into an ice-box that contains other things, such as meat, vegetables, etc. A small nursery or traveling refrigerator, as it is sometimes called, may be used for the milk bottles; this is a very convenient article, especially when one is traveling with a bottle-fed baby.

It is useless to have pure milk if the bottle or cup out of which the baby is to be fed is not clean. All articles which are used in the modification and feeding must be rendered aseptic before using. The funnel, graduate, mixing bottle, and nursing bottles must be thoroughly washed and rinsed, and the bottles scrubbed inside and out with soda water.

When thoroughly cleaned, boil the bottles for ten minutes. A good bottle is the smooth, round kind, marked on the surface with a scale of one and one-half ounces. As each bottle is emptied, it is rinsed with hot water, then filled with cold water to which a pinch of bicarbonate of soda has been added, and set aside. Later all the bottles may be washed at one time. If the bottles

are to be transported, rubber corks are better.

The nipple that is attached to a long tube must not be used. It has been proved unsatisfactory, because of the difficulty of cleansing the tube. Only the black rubber nipple which slips over the neck of the bottle should be used. The hole in the nipple must not be made large enough to permit the milk to run in a stream, but it must be large enough to drop easily.

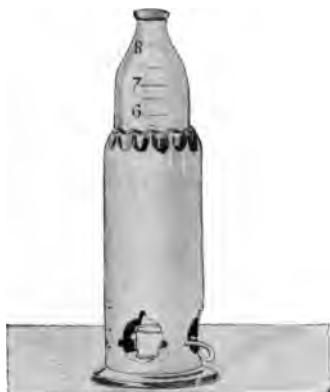
The nipple after being used should be washed thoroughly, and kept in a solution of boric acid. This solution should be changed daily, and the receptacle that contains it cleaned. Every day the nipples must be boiled for five minutes.



To prepare the bottle for feeding, it should be taken from the ice-chest, and warmed by placing it in a receptacle filled with warm water. To test the temperature of the milk pour a little upon the hand from the bottle. Never taste the milk from the

nipple or bottle. It will only take a few minutes to warm it to the proper temperature of 100 degrees.

There are many appliances for heating bottles. Little individual bottle heaters are sold in the shops which answer the purpose very satisfactorily. There is also one heated



Bottle heater.

by electricity which is probably the most convenient of any. Care must be taken not to heat the milk to too great a temperature. The bottle may be provided with a flannel holder or cover which

helps retain the heat.

The bottle should always be held by the nurse or mother until it is emptied. It is a bad habit to leave the baby with the nipple in its mouth, so that it may alternately suck or sleep.

One set of utensils should be kept for the

modification of the baby's milk, and these must be boiled each time before the food is prepared.

List of utensils:

- 1 dozen 5 oz. bottles for very young child;
- 1 dozen 10 oz. for older child
- 1 16 oz. glass graduate
- 1 two-quart aluminum cooking dish
- 1 long handle aluminum spoon
- 1 fine wire mesh strainer
- 1 tablespoon and one teaspoon for measuring

Babies fed artificially seem to require other food than milk sooner than do those fed from the breast. At six months it is quite customary to begin testing the baby's digestive powers by adding to its regular feedings vegetable broth, cream of wheat, farina, spinach soup, orange juice, bacon, toasted crumbs, animal crackers, etc. Orange juice should be added at the third or fourth month. None of the additional foods are to be given between the regular feeding times—unless it be the orange juice.

Milk is the principal food up to the end of the second year. Soon after the beginning of the second year, the child can have,

besides its quart of milk, a soft boiled egg, thickened soups, baked potato, spinach, carrots, apple sauce, prune sauce, scraped apple, orange juice, toasted bread and wafers. Meats, other than bacon, should not be given a child under eighteen months of age. A chicken or beef bone may be given it to suck. When a change of diet is necessary, the physician should be consulted.

CHAPTER IX

DISEASE AND INJURIES

The minor diseases of infancy are too frequently treated by the mother. The simplest illness may develop complications which render it serious. Many mothers avoid summoning a physician for so-called trivial diseases, such as mumps, measles, bronchitis, tonsillitis, etc., and treat them as advised by a friend or by a family medical book. But the mother's diagnosis is so liable to be wrong, and her treatment of a case so inadequate that she is unwise to take the responsibility without the advice of a physician. For if anything serious should occur, she could but blame herself for what would seem inexcusable. It is much better, therefore, to call a physician for the simplest indispositions of infancy

than for the mother to assume the responsibility of treating them.

But the mother has her responsibilities, and they are in the prevention of disease. The question is often asked, as children may sooner or later have all or nearly all the diseases of childhood, why not let them be exposed to measles, scarlet fever, chicken-pox, etc. A little thought, however, will clearly show that the mother who exposes her child to any contagious disease does the child a positive wrong. In the first place, though some children do have most of the diseases of infancy, many escape some or all of them. And in the second place, a child may have a chronic disability after a disease or may even die of the disease. Viewed so, no mother wishes to expose her child to contagion.

PREVENTIVE DON'TS: Don't take your baby to visit friends where some member of the family recently has had any of the so-called contagious diseases of childhood; and don't allow any person to enter your house who has any of these contagious diseases at

home. The question is often asked, how long after having had a contagious disease can a person give it to another. This question is answered in pages that follow, upon reference to the respective diseases. However, don't let a child with whooping-cough come near your baby at any time. Don't let children in the street run up to the baby carriage, for they may have whooping-cough or other contagions that they may carry. Don't, if you can possibly avoid doing so, take the baby into a street car, a store, assembly hall, or any crowded place. Don't take the baby into the business part of the city; preferably drive toward the parks where there is plenty of fresh air. Don't allow your friends or the nurse maid to kiss the baby, especially upon the mouth. Don't give the baby water drawn from the tap. These don'ts, if conscientiously observed, will save the child and yourself many troubles.

SCARLET FEVER: Scarlet fever is one of the diseases most dreaded. The period of incubation, that is, the time following the

exposure until the disease manifests itself, varies. In a large majority of cases, the time is from two to four days; it may even be shorter than two days and as long as several weeks. In order to contract the disease, one must come in close contact with a person who has it; it may be had a second time, but such cases are rare. The rash appears generally about the neck and shoulders first, and then gradually on the chest, spreading over the entire body. It is a red, smooth rash not raising itself above the skin like a measles rash. By the fifth day, the rash begins to fade, but four weeks or longer should elapse after the rash has disappeared if there is any peeling or ear discharge before the child should mingle with other children. After the child has fully recovered, the house should be thoroughly fumigated. In the cities the case is reported to the health department by the physician, and the house is fumigated by that department.

MEASLES: Few children who have been exposed to measles escape having them. It is not necessary for the child to have a close

exposure in order to contract this disease. Because of the frequent complications that are liable to arise, the case should be under the care of a physician. The period of incubation averages twelve days; however, it may be as many as twenty-one, or as few as seven. The disease begins generally with a marked coryza, that is, a watery discharge from the nose and eyes, and some fever, and with a feeling of general lassitude, and stomach disturbances. After from two to four days, the eruption appears. The eruption appears first in small dark red spots on the neck or at the edge of the scalp. Soon it becomes slightly raised, and the number of spots increases. These gradually extend over the whole body. Sometimes the spots coalesce (run together) into one blush. As soon as the case is known to be measles the patient should be isolated. A child should be kept away from another who has the measles for at least two weeks after the rash has entirely disappeared.

GERMAN MEASLES: This disease is less contagious than ordinary measles. Infants

under six months of age are rarely affected. It is one of the lightest diseases of infancy, and rarely leaves any bad effect. The eruption comes out frequently without any premonitory symptoms, and is quite variable in appearance. It resembles, in different individuals, mild cases of either measles or scarlet fever, and must be differentiated from them.

INFLUENZA: A child should be kept away from anyone suffering with influenza. Young infants are especially susceptible to the infection. Using a soiled handkerchief on the mouth or the nose of an infant is an unclean and unwise habit; the handkerchief always contains infected material to which the young infant is strongly susceptible. The preventive treatment of influenza in infancy or childhood is not to permit the child to come in contact with anyone suffering from the disease, and to use clean linen about the nose and mouth of the child.

MALARIA: When the mother has malaria, the disease is frequently manifested in the infant, especially in an infant fed upon the

breast. In such cases, curing the mother usually cures the infant.

EARACHE: It is difficult in very young babies to determine whether the child has earache or not. Earache generally follows or accompanies a severe cold in the head, and is accompanied by a rise of temperature. If the baby cries from pain at this time, and cannot be comforted by the usual means used to correct pain, fairly good diagnosis of earache from inflammation of the middle ear may be made. The infant is often relieved by a sudden discharge in the ear. When it seems probable that the child is suffering from earache, a physician should be consulted. In the meantime, almost instant relief from pain may be given by applying hot salt bags or hot water bags to the side of the head. Nothing should be put into the ear unless the physician orders it, nor should the ear be irrigated with any solution without medical advice, nor plugged with cotton if it is discharging. Dropping sweet oil, laudanum or paregoric, into the ear is dangerous. One attack of

earache is frequently followed by others. These attacks may occur the same season, or the next winter. Earache sometimes comes because the child is run down in health.

MUMPS: Close contact is required to communicate mumps, which is the inflammation of the salivary gland in the back part of the cheek. Infants are rarely affected by them. The period of incubation is from two to three weeks after contact. It is contagious from the beginning of the symptoms and can be given to other persons for several days after the symptoms have disappeared. Pain between the ear and lower jaw, accompanied by a slight rise in temperature, usually precedes the swelling under the ears. Both sides of the face are generally affected, but the trouble may occur on one side only. The side of the face should be protected from cold by a layer of cotton tied in place. Complications with mumps are very rare in children and infants. The child should be kept in the house if the symptoms are mild, and put to bed

if they are severe. Frequently the pain is so great that a child can not eat. Under such circumstances, it becomes necessary for the physician to give an opiate.

WHOOPIING COUGH: Fully one-half of the cases of whooping-cough occur within the first two years of a child's life, at a time when the life force is very feeble, and when digestion is more or less interfered with in changing the food, cutting teeth, etc. The duration of the disease is of an annoying length of time. It is much easier to treat whooping-cough in an older child. The incubation period is seven to fourteen days. The disease usually comes on slowly, beginning with a cough, which lasts a few days, and which, after ten days or so, is accompanied by paroxysms of coughing. These paroxysms are associated with a typical whoop and may easily be detected by the mother. The spasmodic stage of the cough usually lasts about one month. During this time, the child will often vomit its food and frequently become quite weak. Fresh air seems to be a great tonic, the

purser the better, and therefore country air is desirable. But if the child lives in the city, the room and bedding should be changed frequently and aired. There should be no contact with other children while the paroxysms of coughing last.

DIPHTHERIA: Any inflammation in the throat should be looked on with suspicion, and whenever the baby is ill the throat should be examined. Grayish patches on the tonsils may indicate diphtheria, and should be examined immediately by a physician, for a few hours' delay may result seriously, even though antitoxin be given.

Since antitoxin has been introduced in the treatment of diphtheria, the mortality from this disease has been reduced tremendously. No treatment in modern medicine has proved of more value than the giving of antitoxin as a prophylactic and an active treatment of diphtheria. Mothers should realize the urgency of giving antitoxin, and not hesitate to have it given; and the earlier in the disease the antitoxin is administered, the more favorable is the result. Even as

a preventive, the antitoxin should be given to each child who has been exposed.

The danger of contagion is not over until several days after the membrane has entirely disappeared. The disease is generally acquired only by close contact. Owing to the complications which may follow, the child ought to be under the care of the physician for a long time. Older children should be kept in bed for from one to three weeks following the disappearance of the membrane, the length of time depending on the severity of the case.

VACCINATION: The effectiveness of vaccination in the prevention of smallpox can not be doubted, for the carefully compiled statistics have long since proved the efficacy of the vaccine.

A healthy baby should be vaccinated some time in the first year. Some medical men advise it before teething has commenced. Ordinarily, mothers look too lightly upon the operation, and pay no attention to the scratch into which the vaccine has been rubbed. As soon as the vaccina-

tion begins to take, the wound must be kept clean and should be protected. Protect the sore with a cap, or by placing a piece of clean, soft linen over it. The patient will have some fever, and be restless, but the fever and restlessness will subside in from twenty-four to forty-eight hours.

CONVULSIONS: Children with perfect digestion and those given proper food rarely have convulsions. If a child has a spasm, put its feet into a mustard bath, wrap the body up in towels soaked in mustard water (two heaping teaspoons to one quart of warm water) and send for a physician.

Should the spasm continue and the child seem weak and the nails and lips turn blue and the hands cold, put it into a hot bath immediately. The temperature of the bath must not be over 106 degrees F., and it must be tested always by a bath thermometer, which every mother ought to have; otherwise, there is great danger of burning the infant.

CROUP: Croup of itself is not dangerous, but as an attack usually comes on suddenly

at night and causes the infant much distress, the mother becomes alarmed. In a mild attack, the breathing is noisy, and is followed by a tight-sounding bark, or croupy cough. When the attack is severe the breathing is more noisy and difficult. This form of croup must not be mistaken for membranous croup, which is a diphtheria of the larynx. While croup is generally considered harmless, it is frequently the forerunner of a more serious trouble, and a physician should be consulted. Home remedies may be tried to relieve the child until a physician arrives. Place a kettle of steaming water near the bed, so that the child may get the steam from it.

FOREIGN OBJECTS SWALLOWED: The very young infant is not likely to be where it can get foreign substances into its mouth, such as buttons, marbles, etc. But when the baby begins to walk, it seems to try to put all the things it finds into its mouth. If something disappears into the child's mouth, examine the throat, because the article may have lodged itself where it can be removed by

the finger. If the baby is choking, hold it by the feet, give it a few taps upon the back and the foreign body may expel itself. If, however, the object has passed into the stomach, the treatment must depend upon the age of the child, and upon the size and character of the object swallowed. Children old enough to eat starchy foods may be given quantities of bread and potatoes (but no fluids). The food forms a coating about the article, and thus it passes protected through the alimentary tract. Do not give an enema or cathartic. However, if the foreign body is a dangerous one, such as an open safety pin, etc., a physician must be called.

There must be no attempt by the mother or nurse to remove with an instrument foreign objects in the nose or ear; for there is danger of injuring the child with the instrument, and also of pushing the body farther. If the article can not be removed with the fingers, the child should be taken at once to a physician.

TONSILS AND ADENOIDS: Enlargement of

the tonsils are not usual in new-born babies, neither are adenoids frequent. At the age of two years the symptoms of these conditions frequently become very marked. The most noticeable is mouth breathing, besides disturbed sleep and deafness. Associated with enlarged tonsils are somewhat similar growths in the upper throat just back of the nose. These growths are known as adenoids, and are frequently found with enlarged tonsils. When a child has both adenoids and tonsils, its development is seriously interfered with. Fortunately, however, they are rarely found in early infancy. When these growths interfere with a child's health, that is if the child is becoming a mouth breather, etc., an operation is indicated. The immediate benefit which children receive from the removal of the tonsils and adenoids is unbelievable. Often weak and puny children show rapid physical and mental development after tonsils and adenoids are removed.

Mouth breathing from any cause, and restless sleeping (if not due to adenoids, or

to some defect of the nose) may often be corrected by fastening a bandage around the head and under the chin. This bandage holds the mouth closed and compels the child to breathe through the nostrils. Wearing the bandage for even a few nights will often serve to break up the habit.

Much may be done to prevent adenoids and enlargement of the tonsils by a careful attention to the hygiene of the mouth and the nose of an infant. If the nostrils of a young child should become closed or inflamed by a slight cold in the head, apply vaseline or liquid alboline to the nostrils.

Irrigation of the nostrils by means of a syringe should never be done except when directed by a physician. The danger of forcing infective matter through the eustachian tube into the middle ear is great.

BURNS: Only the slightest burn should be treated by the mother. To relieve pain, apply several thicknesses of gauze saturated with a solution of baking soda—a heaping tablespoonful to a glass of water. After the pain has somewhat subsided, the burn may

be dressed with carbolated vaseline, and covered. But if the skin is broken, call a physician.

SUNBURN: When painful sunburn demands treatment, cover the burn with oxide of zinc ointment, or carbolated vaseline.

MOSQUITO BITES: Ammonia water, spirits of camphor, or dampened salt rubbed on a mosquito bite will give relief.

BRUISES: To prevent swelling and discoloration from bruises, immediately put on wet compresses of ice water or very hot water, or equal parts of alcohol and water. Continue this treatment for some time. If the discoloration has already occurred, massage with lanoline.

CUTS AND WOUNDS: Treat all wounds not directly connected with the eye with one-half strength tincture of iodine (iodine and alcohol equal parts), then apply dry aseptic gauze over the cut or wound—even the slightest scratch should be so treated. If there is much bleeding of the wound, bandage tightly until the physician arrives.

If the cut should be deep, involving a

large artery, apply a bandage tightly above the wound. If a vein is cut, tie the bandage below the wound. The artery and vein cuts may be differentiated by the color and the way the blood flows. The blood from an artery is red and spurts. The blood from a vein is much darker and flows steadily.

Frequently a needle is used to open a pimple or boil. Before opening, cleanse the skin with soap and water, and apply iodine. Then boil the needle ten minutes, or heat it to a red heat in a flame. Many cases of infection occur from neglect of these precautions.

In every household there should be a medicine chest containing the following:

Glass graduate marked with fluid drams and fluid ounces

Medicine dropper

Absorbent cotton

Borated gauze

Gauze bandages—assorted sizes

Oil silk

Boric acid (same as boracic acid) crystals and powder

Pocket case of instruments, containing scissors, knife, dressing forceps, sutures and needles

Calomel, one-tenth and one-fourth grain tablets.

Camphorated oil
Castor oil
Sweet spirits of niter
Aromatic spirits of ammonia
Syrup of ipecacuanha
Alcohol
Olive oil
Glycerine
Tincture of iodine, one-half strength
Mustard
Soda-mint tablets
Epsom salts
Vaseline, carbolated
Zinc ointment

APPENDIX

GUM ARABIC WATER: Dissolve one ounce of gum arabic in one pint of boiling water. Add a wine glass of flavoring, two table-spoonsful of sugar and the juice of one lemon. Let cool, and add ice.

JUNKET: Take the chill off a pint of fresh milk. Add one tablespoonful of essence of pepsin, or one-half of a junket or rennet tablet. Stir the milk, and flavor with sugar, and nutmeg; pour into cups and put in a cool place until it sets.

FLAXSEED TEA: One ounce of whole flaxseed, juice of two lemons, two small sticks of crushed liquorice root, one heaping table-spoonful of sugar. Pour over these ingredients two pints of boiling water, and let the mixture stand in a hot place for three or four hours, then strain.

CHICKEN BROTH: Chop fine a small chicken and boil it in a quart of water for

an hour, adding a blade of mace, parsley, some rice, and a crust of bread. Skim from time to time, and when done, strain.

ALBUMIN WATER OR EGG WATER FOR YOUNG INFANTS: Stir the white of one egg into one pint of ice cold water. Do not shake. Flavor to taste.

ALBUMIN WATER FOR ADULTS: Stir whites of two eggs into one-half pint of cold water. Do not shake. Season to taste.

WHEY: To a pint of skimmed milk, warmed to body heat, add half a grain of rennet, that previously has been dissolved in a tablespoon of cold water. (These tablets may be obtained at the drug store.) In thirty minutes it will become clabber. Separate the whey from the clabber by straining through a napkin, put the whey immediately upon ice. Whey is a valuable food in cases of indigestion.

DRIED BREAD: Take stale or fresh bread, cut it into thin slices and place it in a hot oven with the door open. Let it dry but not brown. It is better for children than crackers.

CODDLED EGG: Place a fresh egg with the shell on in boiling water. Let the egg remain in the water which is gradually cooling for eight minutes. This process should make the white of the egg about the consistency of jelly. For a delicate digestion, the white only, which may be easily separated from the yolk, should be given.

BARLEY WATER FOR ADULTS: Wash four tablespoonfuls of pearl barley in cold water. Then boil five minutes in clear water. Strain off the water and add two quarts of boiling water. Boil down to a quart. Strain or not, and season.

BARLEY WATER: Take two tablespoonfuls of pearl barley, and after thoroughly washing it, soak in cold water for three hours. Pour off the water and add to the barley a quart of fresh water. Boil for two hours, adding water enough to keep it to the original amount. Then strain through a fine cheese-cloth and keep cool. Robinson's prepared barley may be used by taking one pint of cold water and stirring into it one tablespoonful of the barley which has previously

been made into a paste by mixing it with water. Boil for fifteen minutes and strain.

RICE WATER: Wash two tablespoonfuls of rice; add two cups of cold water and boil until the rice is quite soft. Strain and add milk or cream. Reheat and season to taste.

OATMEAL WATER: Prepared as barley water. Oatmeal water is used instead of barley water when the baby is constipated. For diarrhea, rice or barley water is better.

LIME WATER: Take one heaping teaspoonful of slacked lime and one quart boiled or distilled water; place in a quart bottle and shake two or three times during the first hours. The lime should then be allowed to settle. After twenty-four hours, pour off the upper clear fluid and throw away; then add water, shake and let stand; decant after twenty-four hours. Lime water can be obtained at the druggist's.

BEEF JUICE: No. 1—One pound of round steak cut thick; broil slightly, and press the juice out of it with a lemon squeezer, or, better still, a meat press. (A meat press can

be had at a reasonable price, and is a most serviceable article.) Season the juice with salt, feed it warm or cold. To heat the juice, place the cup in which it is contained into warm water, and keep it there until it is warmed through. If it is heated too much, the albumin coagulates and will float in flakes or shreds.

BEEF JUICE: No. 2—One pound of finely chopped round steak, six ounces cold water, and a pinch of salt. Place in a covered jar, stand on ice or in a cold place five or six hours; shake occasionally. Strain and squeeze juice from meat, and season. This is more nutritious than No. 1 and furnishes twice the amount of juice.

BEEF JUICE: No. 3—Select round steak free from fat and chop into pieces that are less than an inch square in size; put into the top part of a double boiler, with no water. Fill the lower part of the boiler with cold water, and place over a slow fire, and let simmer—not boil—for three hours. Press out the juice and season.

BEEF JUICE: No. 4—Take one-half pound

of lean beef, chopped, into an oval, flat mass, place on the broiler and brown, then press the juice out with a small meat press, and mix with an equal part of barley water and salt.

BEEF SANDWICH: Scrape pulp from raw steak, season to taste and spread on lightly buttered bread.

CLAM BROTH: Wash six large shells containing clams. Place the shells in kettle, and just cover with water; bring to a boil for a minute. The heat opens the shells and the liquor runs into the water. Pour the juice off and serve hot.

OYSTER BROTH: To one dozen oysters with their liquor, add a cup of cold water; boil for five minutes, strain and season.

MUTTON BROTH: Take one pound of lean, finely chopped mutton; add some of the bones, a pint of water and a pinch of salt. Cook for three hours over a slow fire. Cook down to half a pint, adding water if necessary. Strain through muslin, and when cold, carefully remove the fat. Feed warm or cold. A very nutritious soup is made by

thickening this broth with arrowroot or cornstarch and cooking for ten minutes. Then add three ounces of milk to a pint of the soup.

BEEF TEA: Take one pound of round steak, remove fat, and cut into small pieces. Soak in cold water with a pinch of salt for three hours. Place the ingredients on the back of the range for an hour, keeping it at a temperature of 100 degrees F. Strain and season.

EGG LEMONADE: Beat up an egg with a tablespoonful of sugar, then stir in three tablespoonfuls of cold water and the juice of one lemon; fill the glass with chopped ice. Shake well, and pour into a clean glass. Drink through a straw.

MILK AND EGG: Season milk with salt; beat white of an egg until stiff; add egg to milk and stir. Flavor with grated nutmeg or cinnamon.

MILK, PEPTONIZED (cold process): In a clean quart jar put contents of one peptonizing tube (Fairchild's); add one teacup of cold water and shake; add one pint of cold

fresh milk and shake. Put on ice and heat just before using.

MILK, PEPTONIZED (warm process): Mix same as above; put bottle in hot water for ten minutes. Water should be so hot that hand can not be held in it for any length of time. Remove and put on ice. Peptonized milk should not be bitter.

MILK SHAKE: Take white of one egg; one teaspoonful of sugar, two tablespoonfuls of chopped ice, one ounce of cream. Shake two minutes in milk shaker. Add cold milk to fill glass, flavor with vanilla or lemon and shake again.

PRUNE-SENNA: Put an ounce of senna leaves in a glass jar and pour over it a quart of boiling water and allow it to stand for two hours. Strain and add one pound of prunes, letting them soak over night. Next morning cook the prunes in the same water until tender; then sweeten with two tablespoonfuls of brown sugar. At night eat half a dozen of these prunes with their syrup. Increase or decrease the amount of prunes as is found necessary (Laxative).

SENNA WITH PRUNES AND FIGS: Take one pound of dried figs, one pound of prunes. Wash and remove stones from the prunes, and if hard and dry soak an hour. Put the fruits through the meat chopper, adding two ounces of finely powdered senna leaves; stir into this two tablespoonfuls of molasses. Eat a tablespoonful of the mixture before going to bed. Half a pound of seedless raisins and half a pound of dates may be added to the above. A nice way is to make the fruit into lozenges, and after rolling them in wax paper, put away in a cool place (laxative).

FLOUR BALL: Wrap four cups of wheat flour in a piece of muslin and tie tightly. Place this in boiling water and boil for six hours. Remove it from the water, cool and remove outer coating with a sharp knife. Break the ball into pieces and dry thoroughly in a slow oven. Pulverize and keep in a dry place.

In using flour ball, the flour must be made into a smooth paste by adding water and then brought to a boil.

TOAST WATER: Put two or three pieces of well-toasted bread in one quart of boiling water; allow to stand until cool and then strain.

SALT, OR SALINE SOLUTION: Dissolve one teaspoonful of pure table salt in each pint of water.

BORIC ACID SOLUTION: Add two tablespoonfuls of boric acid crystals to a pint of water which has been boiled or distilled; let stand for several hours, and then filter through a clean absorbent cotton and keep the bottle well corked. A fresh solution should be made frequently.

MUSTARD BATH: Add two tablespoonfuls of mustard to one gallon of water. For very small infants it is better to put the mustard into a piece of thin muslin and let it remain in the tub, gently squeezing it from time to time. Put the child in the water for five minutes, continually rubbing the limbs and back. After removing from the bath, wrap the child in a warm blanket and let it be undisturbed for half an hour or more.

HOT BATH: Start in with the tempera-

ture at 98 degrees F., and gradually increase it to 120 degrees F.

ALKALINE BATH: Add one ounce of sodium carbonate to each gallon of water.

SODA BATH: To every four gallons of water put one tablespoonful of washing soda.

STARCH BATH: Take one-half cupful of boiled starch to four gallons of water. The soda and starch baths are soothing to hives and such irritations.

SALT BATH: Dissolve four heaping tablespoonfuls of common or sea salt in every gallon of water. A plunge in such a bath, followed by a brisk rubbing, has a decidedly tonic effect.

BRAN BATH: Put a pound or more of bran in a muslin bag and boil in water for fifteen minutes. Squeeze occasionally and add enough of this water to a bath to make it milky.

WARM COMPRESSES: Make a warm compress by folding a piece of cloth into several thicknesses. Dip into tepid water and place it on the affected part. Cover with oil silk a

little larger than the cloth. Hold the compress in place by a bandage.

COLD COMPRESS: Make this compress by folding a piece of cloth into several thicknesses, dip into cold water, and apply. Change from time to time, not allowing it to become warm. This compress is not to be covered with oil silk. It is good for sprains and inflammations.

HOT COMPRESS: Fold a flannel into several layers and place in a towel. Dip the center into boiling water and wring out by twisting the towel.

MUSTARD PACK: Strip the child of all clothing and wrap it in a sheet saturated with the following mixture: One tablespoonful of mustard to one quart of tepid water, then completely cover the child with a blanket. This pack may be continued for fifteen minutes.

HOT FOMENTATION: Wring out a piece of flannel from water as hot as the hand can bear it. Place it over the affected part, and cover with a layer of cotton batting and oil silk. This is much cleaner than poultices.

TURPENTINE STUPE: Wring out a piece of flannel in hot water, and sprinkle with turpentine, about one half teaspoonful to each square foot of flannel. Apply and cover with oiled silk and a dry towel. Leave it on as long as possible. The length of time depends on the amount of irritation. The flannel may be kept warm by the aid of hot water bags or bottles.

MUSTARD PLASTER: One part of mustard is mixed with three or four parts of flour. Boiling water is added to make a paste of the right consistence; stir constantly. Then spread it on a cloth and apply it directly to the skin. If it irritates, a thin piece of cloth may be put next to the skin. A plaster less liable to burn or blister is prepared by taking one tablespoonful of mustard, three or four of flour, the white of an egg and one teaspoonful of glycerine.

COTTON PNEUMONIA JACKET: Make double layer muslin waist, high necked front and back, that will pin over the shoulders. Between these layers place a layer of cotton batting an inch thick. Place a piece of oil

silk the same size as the waist on the outside of the jacket, and quilt or tack the garment. The lower border of the jacket should not cover the abdomen.

POULTICES: A poultice retains heat longer than a fomentation. It should be about one-half inch in thickness.

FLAXSEED POULTICE: Add flaxseed to hot boiling water, and stir continuously until the mixture is the consistency of thick mush, that may be spread but will not flow. Spread this mixture between layers of cheese-cloth, and cover the poultices with oil silk. A hot water bag placed over that will hold the heat. Reheat when cold.

EMETICS: Emetics are used to empty the stomach in case of poisoning or in acute indigestion.

No. 1. A tablespoonful of syrup of ipecac. Repeat in fifteen minutes if necessary.

No. 2. A glass of warm water with as much common salt as it will dissolve.

No. 3. A teaspoonful of mustard in a large quantity of warm water.

ENEMAS: These should be given with the

patient in the knee-chest position, or lying on the left side with the hips elevated. The temperature of the solution should be about 100 degrees F.

Soapsuds and glycerine enema:

Soapsuds, one quart.

Glycerine, one ounce.

1-2-3 enema (medicated):

Magnesium sulphate, one ounce.

Glycerine, two ounces.

Water, three ounces.

Milk and molasses enema:

Milk and molasses, equal parts, warm.

Turpentine enema:

Soap suds, 1 pint.

Turpentine, 1 teaspoonful.

Asafetida enema:

Milk of asafetida, eight ounces.

Water, eight ounces.

Normal salt solution:

Two teaspoonfuls of salt to a quart of water.

Glucose enema (nutritive):

Dissolve one ounce of glucose in two ounces of hot water, and add to five ounces of normal salt solution.

Pancreatinized milk enema (nutritive):

Add one tube of peptonizing powder to one pint of skimmed milk. Stir well. Place in warm water bath for thirty minutes.

Milk, egg, and beef juice enema (nutritive):

Mix the beaten whites of two eggs, two ounces of beef juice, six ounces of skimmed milk, and one-third teaspoon of salt. Add to this one tube of peptonizing powder. Stir and place in a warm water bath for one-half hour.

Milk and egg enema (nutritive):

Take the whites of two eggs thoroughly beaten, to which add six ounces of skimmed milk and one-third teaspoon of salt. Add one tube of peptonizing powder, and stir well. Place in warm water bath for one-half hour.

Milk and glucose enema (nutritive):

To six ounces of skimmed milk add one tube of peptonizing powder. Stir and place in warm water bath for thirty minutes. Add three or four teaspoonfuls of glucose and one-third teaspoonful of salt.

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San Francisco County Medical
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The first part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is not only a matter of historical interest, but also a matter of practical importance. The study of the history of the English language can help us to understand the development of the English language and to see how the English language has changed over time. This can be useful in many ways, such as in the study of literature, in the study of the history of the English language, and in the study of the English language in general.

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